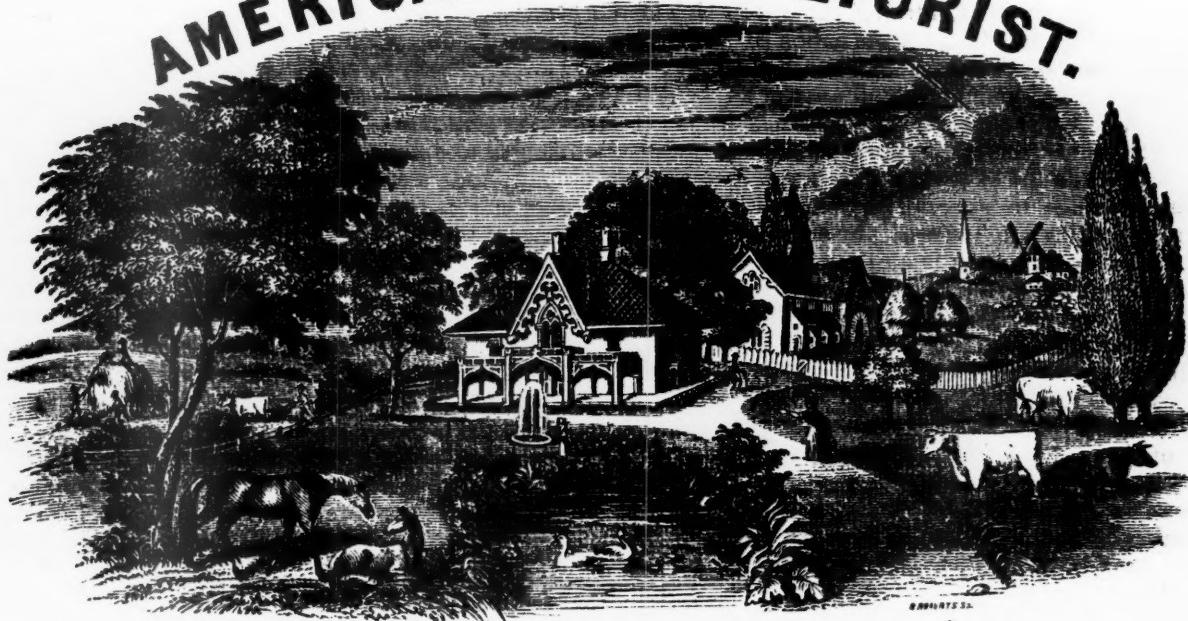


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Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON

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MILKING STOCK.

SCARCE a week passes that we do not have inquiries for bulls bred from milking families on both sides, for the purpose of improving the dairy qualities of the applicant's stock. The herds of such persons are usually so small that they cannot afford to pay higher than from \$20 to \$40 for bulls from six to eighteen months old. Now such prices will ordinarily remunerate farmers very well for rearing good native grade stock; and we earnestly entreat them to pay strict attention to the dairy points of their bulls and cows, and save those calves only which are well descended from approved milking families on both sides. By rigidly observing this rule for a few generations, their herds will get so well established in their dairy qualities, that they can then depend upon nine calves out of ten proving good milkers. In addition to the point of milking, we hope they will study to add as many other good ones as possible; such as fine bones and a superior quality of flesh, together with a reasonable aptitude to fatten, when dried off for this purpose.

Good milking cows will always command from \$35 to \$50 in this market. It is surely better to rear a good rather than an indifferent beast, as the one costs no more to do so than the other—indeed, the good one as a general rule costs least.

Our advice would be, to have a sufficient number of farmers unite in each neighborhood to purchase improved bulls for the use of their cows. The improvement in their stock by this means would be cheap, certain, and rapid; but we know from experience how difficult it is to get this done. Nevertheless, every good farmer is bound to do his best to bring about so desirable a result. We do not care so much for the name of the breed as we do for the sure possession of those points in the ani-

mal which are calculated to make it the most useful of its kind. Let the farmers pay close attention to this in all the calves they may save for rearing hereafter, and we shall be satisfied. If they do not like the imported Durham, Hereford, and Devon aristocrat races, let them take the native democrat; provided it be a good kind, we will engage not to quarrel with them about names. Give us *the thing*, is all we ask.

Since writing the above, several of our friends have said to us that they would save bull calves from first rate milking cows this summer, if they can be positively engaged, and taken from them at one to three months old. Their prices will be from \$15 to \$30 each, dependent on quality and age. They have hitherto sent their bull calves to the butcher in consequence of no demand for them. The stock is generally a high grade Durham with a mixture of the Dutch milking stock, or Devon, or Ayshire grades.

PREPARATION OF WOOL FOR FOREIGN MARKETS.

At the convention of wool-growers, assembled at Steubenville, Ohio, on the 10th of February last, a committee was appointed to draw up a report on the importance of having their wool properly prepared for market, from which we extract the following:

First, before washing, remove carefully with the shears all locks containing dirt in a hardened state. Then wet the sheep in every part, and let them stand crowded together for one or two hours. When first put in for wetting, they should be taken out of the water as quickly as may be after the wool is fairly wet, in order to retain a soapy substance, contained in the fleece, which acts upon the dirt and gum in the wool, while the sheep stand before washing. This soapy substance is the first thing to escape as washing is commonly done.

The best mode of washing, is to use a fall of three feet or more, turning the sheep in different ways under the fall, till the action of water brings every part of the fleece to almost a snowy whiteness. A fall much less will answer as well, if the sheet of water is eight or ten inches deep. If the water under the fall is not deep enough to remain clear while the sheep are in, a plank bottom should be provided to prevent any sand or earthy matter from getting into the wool, by stirring up the water. A clear rock-bottom is quite as good. When a fall cannot be had, a clear running stream should be found, and the dirt perfectly worked out with the hands from all parts of the fleece, after first soaking the sheep, as mentioned above. The sheep when washed, should be driven to a clear grassy field, free from bare spots of earth, avoiding dusty or muddy roads on the way after washing.

The shearing should be done as soon after washing as the wool is dry,—say in two or three dry days. When confined for shearing, the flock should be kept well littered, and the floors or stables, or whatever place they are sheared upon, should be kept thoroughly clean. The fleeces must be kept whole, and after they are taken off, they should be placed on a smooth clean floor, or table, with the outer side upwards, and carefully examined all over by patting with the hands in order to find every burr, which should be taken out without fail. The fleece should then be snugly rolled up, and bound together with a small twine. If farmers would not suffer a burr-bearing plant to live in their sight, it would be vastly better for them. A disregard of these little things, the whole cost of which is trifling, is the great hindrance to the sale of American wools in England and France, and our farmers have generally no idea of the injury they suffer by the neglect of these matters; or by the shameful, dishonest practice of tying up their fleeces with ten, and even twenty feet of small rope, or with strips of bark, two or three inches wide, instead of a small piece of twine. They also often wrap up coarse and unwashed wool within some of their finest fleeces, putting in dirt-balls, dirty sweepings of barn-floors, and rolling up their wool so wet that it often moulds.

SOILING OR STALL-FEEDING COWS.

The advantages attending the system of soiling or stall-feeding in the vicinity of cities and large towns, where land is dear, and can be turned to profitable account in the cultivation of fruit and market vegetables, every year becomes more and more manifest, as will be seen by the following information furnished us by Gouverneur Morris, the proprietor of an extensive farm at Morrisania, near this city.

Mr. Morris is the owner of 145 cows, the milk of which is all sold and consumed in this city. They are fed in winter on hay, Indian meal, oil-cake, shorts or ship-stuffs, and occasionally with green vegetables or roots. They are allowed to range at liberty, in an old orchard, where they drink from a pond whatever they wish, from six o'clock in the morning until one o'clock in the afternoon. The rest of the day they are confined to their stalls, where they are fed.

The operation of soiling usually commences in

the early part of May, and continues until November. The crops employed by Mr. Morris, for this purpose, are wheat, rye, purple-flowered lucerne, barley, clover, oats, and Indian corn. The latter he considers as the best, and the most economical as soon as the season will admit of its growth. The corn is planted at different periods in drills, eighteen inches apart, and is cut in succession throughout the season, as it is required for use. Next to Indian corn, lucerne is considered best, as it is six weeks earlier, at least, in its growth, and a perennial that will last eight or ten years, and will admit of being cut five or six times in a season, with an aggregate growth of seven or eight feet. At the present time, May 7th, it is about a foot in height, although the season is unusually backward.

During the summer, Mr. Morris lets out his cows into his old shady orchard twice a day to be milked, and suffers them to remain four hours at each time, where they are allowed to drink as often as they like. They are fed in their stalls three times a day, with green food, as soon as it is cut, and when clover is much used, they are fed once or twice a day with shorts or Indian meal. The advantage of soiling over pasturing, Mr. Morris estimates at six to one. His cows all appear to be healthy and in good order, and yield an abundance of milk.

TETHERING COWS.

THE great difficulty which most dairy-farmers meet with in keeping cows, probably, during the two months preceding the hay-harvest, is stated in an English journal, to have been overcome by a Mr Dumbrell, who, by tethering the cows, is enabled to make meadows of comparatively smaller dimensions than is customary, yield food in sufficient abundance for his dairy.

The usual way of tethering is to allow a cow the range of a circle to the extent of the chain; and when it has eaten down its food within its area, it is removed to another spot. Instead of doing this, Mr. Dumbrell tethers his cows with a chain of twelve or fifteen feet; and when it has consumed the grass within its reach, the pin is removed onward a foot or a foot and a half; the cow then eats this quantity, and is again allowed another bite of the same extent. This plan prevents the animal from treading on the food which it consumes while quite fresh, and the chain assists in distributing the droppings. The field is thus fed over evenly, and all is consumed and none trodden upon. Mr. Dumbrell professes to realize good profits from his system, and with a degree of liberality highly creditable to his character, reserves no information from his visitors.

The tethering of cattle, sheep, and horses, has long been practised in this county, to a limited extent, and we know of no reason why it has not been more generally adopted in rich pasture-land, and in grass-fields after the hay is cut. Those who are disposed to make a trial, we would recommend to take a pair of trace chairs, say ten or twelve feet in length each, couple them by means of a double swivel, in order to prevent kinking, or winding up. Let an eye, or ring, be turned on one end of a 1 1/4 inch bar of round iron, with the other end sharpened, and sufficiently long, when driven

quite into the ground, to hold the animal. Into the ring of this pin, the chain may be hooked with a spring similar to that of a chain-halter. By means of such a contrivance the position of the cows may be changed as often as may be necessary until the whole pasture, or field, is consumed, after the manner practised by Mr. Dumbrell. By the time a large pasture is fed over those portions first cropped, will, in general, be sufficiently grown to commence anew.

CHARCOAL BENEFICIAL TO PEACH-TREES.—Mr. Mason Cleveland, of Hartford, Ct., wishes to make public an experiment made upon a peach-tree by an acquaintance of his, the truth of which he says can be depended upon beyond all question—at any rate the experiment is a cheap one, and is worth trying. He had a young peach-tree, the leaves of which were turning yellow, and showing other symptoms of decay. My friend, calling to mind the qualities of charcoal, removed the turf and soil, near the roots, in a circle of about two feet in diameter around the tree, and filled the space to a level with the surrounding soil, with fine pieces and dust of charcoal, which remained in the bottom of a box. The result was surprising. The tree put on fine healthy leaves instead of the yellow ones, and all other signs of sickness departed in a wonderfully short space of time. The tree again commenced growing, and remained perfectly healthy until some years after, when it was destroyed by the weight of its crop of fruit assisted by a strong wind. It is worthy of note that its fruit, both in quality and size, was as much improved as the appearance of the tree itself.

SHEEP-STELLS.

In the management of sheep, in a climate like ours, one of the most important things to be attended to, is a proper shelter from cold storms, and the intense heat of the sun. As close confinement is particularly injurious to these animals, by nature of a roving disposition, and exceedingly fond of liberty, it is of paramount importance to the sheep-farmer not to force them into shelter, whether they wish it or not, but to place within their reach a suitable covert into which they can at all times resort, and this too of their own accord. If a natural shelter cannot be found, such as a dense forest or thicket of evergreen trees or shrubs, a deep dell or ravine, or large, high, insulated rocks, recourse must be had to art. This may be done by forming STELLS, a term literally signifying a covert or shelter, and is no more nor less than a high circular enclosure, or screen, formed by planting trees, or by building a high stone-wall, or a mound of earth. Any of these modes will answer the desired end; but the latter, in most places, will be more readily made and more economical, both in the original cost, and in subsequent repairs. The spaces inclosed should be on dry ground, and of a size proportionate to the number of sheep that are kept. As a general rule, each stell should contain from half an acre to an acre of land, and should be increased in number according to the size of the flock. If made of stone, the base of the walls should be four feet thick, the top two feet thick, and the height not less than six feet. If formed of earth,

the base may be six feet in width, the top eighteen inches thick, and six feet in height, with the sides firmly covered with tough edge-sodding. They may also be formed by planting circular clumps or hedges of American holly, arbor-vite, hemlock-spruce, or white pine, which, in a few years, will afford an excellent shelter, and will prove highly useful, and ornamental to a pastoral country.

With regard to the form of a stell, perhaps a circular enclosure with an opening towards the south, is as simple and economical as any, as denoted by the adjoining figure. It should be so constructed as to carry off the water

caused by rain and snows, which may be done by digging a trench round the outside, with holes through the wall or mound, communicating with the inside. But what would afford more effectual protection, on all occasions, is what may be called a double stell, constructed in the form of the letter S, running from east to west, as represented by FIG. 34

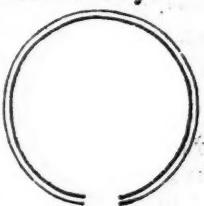


FIG. 33.

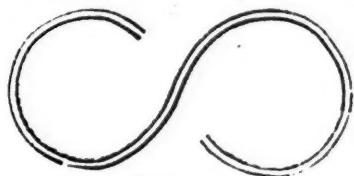


FIG. 34.

It is obvious that in a stell of this description, let the wind blow from whatever quarter it may, one of the recesses, or enclosures, will always be protected from the storm. If two walls, or mounds, were constructed fifteen or twenty feet apart, on the boundaries of the letter, and the spaces between them thickly planted with evergreens, in twenty or thirty years, a security of shelter and shade would be afforded to the cattle and sheep on the prairie farms of the West and elsewhere, that would endure for centuries to come. This is no visionary scheme, but has been advantageously and successfully practised in Scotland and other parts of Europe for more than thirty years.

DIRECTIONS FOR DESTROYING INSECTS.

We are indebted to General Johnson, of Long Island, for the following directions for destroying caterpillars and other noxious insects, infesting trees, by M. Taten, who was rewarded for his discovery by the different Societies of Paris, about one hundred years ago:—

Take of common black or bar-soap, of the best quality $1\frac{1}{4}$ lbs.; flour of sulphur, $1\frac{1}{4}$; mushrooms of any kind, 2 lbs.; and rain or river-water, 15 gallons. Pour one-half of the water into a barrel of convenient size, and stir in the soap until it becomes dissolved; and then add the mushrooms after they have been slightly bruised. Next tie up the sulphur in a coarse open cloth, with a stone, or other weight sufficiently heavy to cause it to sink, and boil it in the other half of the water, for the space of twenty minutes. While boiling, stir the liquid freely and squeeze the bag of sulphur thoroughly, before you take it out. As soon as the water is taken off the fire, pour it into the barrel with the other ingredients, with which it must be

well mixed. Stir the compound once at least every day until it becomes fetid in the highest degree; for experience has shown, that the older and more offensive the liquid, the more quick is its action. The barrel should be closely covered at all times, except when stirring the liquid or applying it to the trees. When it is required to use the mixture, it is only necessary to sprinkle it over the plants or trees, which may be done very effectually by a garden engine or syringe.

HAY-MAKING.

In the making or curing of hay, the first things to be considered are the proper periods for cutting the grass, and the length of time and modes adopted to cause it to dry. On these points, practical men do not all agree; some preferring to cut when in full flower, by means of which, they say, they obtain more and better hay, and the crop is less exhausting to the land; while others consider it best to permit the grass to stand until the seed has just ripened sufficiently to vegetate, which will be more or less scattered for the benefit of the succeeding crop, and the hay, it is thought, is more nutritious, and consequently will afford more flesh and strength.

Lucerne and clover, undoubtedly, afford better and more hay when cut in the flower, and is better adapted for dairy stock than when cut late; but to avoid loss in weight and quality, by heat or fermentation, it is better to salt them down in the mow or stack the same day they are cut, after being exposed a few hours to a hot sun. Two bushels of salt, if uniformly scattered among the hay, are sufficient to cure three tons.

Red-top, Timothy, and the more substantial grasses, generally are not cut before they have arrived at their full growth, at about the time they begin to ripen their seeds. If cut when in a growing state, the unripe juices of the plant are apt to bring on violent heat and fermentation; and thus deprive the crop of much of its substance and nourishment. The truth of this has been confirmed by the observation of Mr. Isaac Reeves, of Delaware, who is of opinion that, by mowing these grasses before they are ripe, the roots bleed and die out, and that this is the reason why a second crop does not spring up for a long time after. "I once," said he, "purchased the fifth part of a crop of Timothy on one of the Islands in the Delaware, with the intention of cutting my lot at the time the other four purchasers did theirs; but I was called from home, and it was not done until the seeds would vegetate. I thought my hay was spoiled; but it was preferred to that of all others for horse-feed; and behold, the next year, my lot of land yielded double the crop of the others, and at the end of three years, it had increased to two and a half tons to the acre, overgrowing all the other grasses, having a uniform crop five feet in height, and preferred before all others at the market. Since that, I have never cut Timothy before the seeds will just vegetate; and I would take a poor field, that shows only a few spikes of Timothy growing in it, and by these simple means, engage, in five years, to cut two and a half tons per acre, of superior hay, provided the land be suitable to the growth of the crop."

With regard to the best mode of making hay, there also prevail various opinions. One class of

farmers never move their hay out of the swath on the day it is cut, but on the second day, shake all that was cut on the day previous, by giving it two turnings. If shaken the day it is cut, they say the hay is reduced by the heat of the sun; but by leaving it in the swath, it "soaks its own sap," and will be reduced very little afterwards. The more of the natural juice or moisture that can safely be left in the hay, the less, they say, will it suffer from that portion of the loss which arises from the drying. Another class contend that *the more quickly the drying is effected, the less extensive will be the change in the starch of the plants*; and consequently the hay will retain more of its substance in a soluble or digestible state. The last assertion would seem to be correct, from observations made in England some time since on the two modes of drying hay. In the dales of Yorkshire, where great attention is given to the frequent turning of the hay, and the consequent increased rapidity of drying it, the cattle can be fattened upon hay alone, which is said to be rarely the case in Scotland, on the Tweed, where the process is more slow, occupying three or four days.

The plan generally adopted in the United States, and the one which long experience seems to justify, is to mow during the early part of a fair day, while the dew is on the grass, say until nine, ten, or eleven o'clock; then spread and turn the hay; towards evening rake it up into cocks of about 100 pounds each; and if the weather be very dry and hot, draw it to the barn or stack the same day. But if the crop is very heavy and green, it is suffered to remain in the cock over night, and about eleven o'clock the next forenoon, it is opened or spread, and four or five hours after is conveyed to the stacks.

SALINE SOLUTION—IN WHICH TO PRESERVE SPECIMENS IN NATURAL HISTORY.—From Hooker's Journal of Natural History.

Common salt - one part.

Alum - - - two parts.

Boiling water - ten parts—filter when cold.

This answers for some subjects better than spirit of wine (alcohol), and there are few situations where it cannot readily be procured in time to preserve a valuable specimen, which would otherwise be lost.

DESTRUCTION OF WEEDS.

All rank weeds or coarse vegetables that grow spontaneously to the detriment of other plants, should be timely destroyed before they mature their seeds. Perennials, such as docks, thistles, dandelion, &c., are the most difficult to exterminate, as they generally strike very deep root. The best and surest method of destroying these, is, to bring them to the surface with the plow or spade, or to pluck them out, root and branch, by hand, and burn, or give them to swine. Fields, or gardens, that are much overrun with perennial weeds may be rendered clean in a few years, by thickly cultivating them with horse-radish, lucerne, or other tap-rooted plants, which will retard their growth, and finally root them out.

Annual weeds, which can only be propagated by seeds, such as spurry, chickweed, charlock, stra-

monium, &c., are most readily extirpated by repeatedly hoeing or raking over the surface of the ground, so as to expose their roots to the influence of a hot sun. The main point, in all kinds of weeds, is to prevent them from running to seed.

All nooks and corners about buildings, as well as paths and gravel walks, may be kept perfectly free from weeds by strewing upon the surface of the soil a layer of common salt, or a combination of fifteen parts of sulphur with one part of lime.

SUGAR-PLANTATIONS IN LOUISIANA— SURFACE AND WHEEL-DRAINING.

OWING to the peculiar formation of the land in this region, before adverted to, all the plantations front upon the water. Here it is, that the surface is almost invariably highest, descending with a scarcely perceptible inclination to marshes, swamps or lakes in the rear. Occasionally, ridges of land of equal height with those bordering upon the water, and probably once the banks of the river or adjoining bayou, extend over the rear of the plantation. Additional elevation is required in front, to protect the land from the overflow of high water. This is provided for by embankments of earth or levées, from three or four, to eight feet in height, and sometimes even more. Immediately in the rear of this, is the public road, which being artificially raised, and well ditched on one side at least, affords good travelling at all seasons, except when excessively wet.

The dwelling houses usually border upon the road. That of the proprietor occupies nearly the centre of the front, and is generally a plain, and economical, yet tasteful building, of two stories, with balconies extending on four sides, protected by a projecting roof, which is supported by light pillars. Sometimes there are two or more of nearly similar construction, for the accommodation of additional families, the use of overseers, &c. The tenements of the laborers are within a few rods of these, and arranged with more or less taste and regularity, in double rows, on opposite sides of an area, fifty to eighty feet wide, and ten to forty feet apart. The sugar-house, which includes the engine, boilers, kettles, vats, and store-rooms, is placed some distance in the rear, as are also the stables, sheds, blacksmiths' and joiners' shops. These are generally painted or covered with white-wash; and the elevated chimneys for the boilers, the imposing architecture of the sugar-house, with the group of trees, shrubbery, and gardens, around the main dwelling, give, at a little distance, the pleasing effect of a tasteful hamlet or villa.

The first thing required, throughout this entire delta formation, after clearing off the native growth of wood, is the excavation of numerous large ditches. In front, is the heavy breast-work of earth, four or five feet high, and five to ten wide at the top; then, the road, some two feet above the natural level, flanked by a deep ditch, adjoining which is the fence. *Leading* ditches, as they are termed, about four feet deep, extend at right angles with the front, and parallel with each other at a distance of 150 to 200 feet (according to the nature of the ground, and the ideas of the proprietor), throughout the whole length of the cultivated land, from 2,500 to 6,000 feet. These are intersected by cross-

ditches of the same size, at intervals of 1,000 or 1,500 feet; and between these, smaller temporary ones are excavated and kept open by the plow and hoe. By the side of the larger ditches, roads are thrown up, wherever required for convenient access to every part of the grounds.

The plantations are generally large, comprising 300 to 1,000 acres of tillable land, with an equal or larger quantity of swamp in the rear; which being more or less covered with wood, yields fuel for the engines and kettles, and timber for the general wants of the plantation. Of the 1,240 sugar plantations, now cultivated, or about to be opened in the State, 630 manufacture the sugar by steam-power, and 610 by mules or oxen. The former cost, with their entire fixtures, from \$5,000 to \$50,000, according to their extent, and the refinement of the operations; the latter amount being required only where the vacuum pans and the refining process have been introduced on an extensive scale, for the manufacture of a superior quality of sugar. It will be seen that a very large capital is necessary for organizing a good plantation; and including the land, clearing, embankments, ditches, roads, dwellings, sugar-house, machinery and fixtures, teams, implements, force, seed, supplies, &c., complete, it requires from \$150 to \$300 per acre for the tillable land. Plantations frequently change hands at from \$100,000 to over \$200,000 each; and where well managed, they pay an interest of from 5 to 10, and sometimes a greater per cent. per annum on the capital employed. It is stated on some respectable authority, that while farming lands in other parts of the union pay an average of 3 per cent. on the invested capital, 4 per cent. is realized in Louisiana.

Like cotton, sugar is a production of comparatively recent date in this country. The cane was first cultivated in what is now the second municipality of New Orleans, as early as 1726, but its manufacture into sugar was not begun till after 1760. In 1796, the second sugar-house was erected in this State, in what is now Carrollton, six miles above the city; and so late as 1818, the entire crop of the State amounted to but 25,000 hogsheads. Steam-power was first introduced in 1822, and since that period, this interest has been rapidly extending, till it reached a total product in 1845, of 207,337 hogsheads, of 1,000 lbs. each, and about 9,000,000 gallons molasses. It is probably, at the present moment, the most profitable agricultural pursuit in the United States, and with every prospect of continuing so for a long time to come. The consumption in the United States is now over 40 per cent. greater than our total products, and from our increasing prosperity and wealth, it is augmenting much beyond the ratio of our population. When our own wants are fully supplied, there is nothing to prevent our entering upon a successful competition with the foreign article in European parts, as we have heretofore done in cotton, grain, beef, pork, lard, and the products of the dairy.

The introduction of the ribbon cane into this State from Georgia, in 1817, by giving a hardier variety than the Creole and Otaheite, before used, has enabled the planters to extend its successful cultivation greatly beyond the region originally supposed to be suited to it. And it does not admit of a doubt, that when all the land in the Gulf States,

adapted to the cane, is reclaimed and put into the best condition for the hardier kinds, under the best system of tillage, with the most efficient and economical conversion of the product into sugar, these states alone are capable of producing far beyond the aggregate product of the whole world in 1844, which was below 780,000 tons.

I will occupy the remainder of the space I shall presume to claim for a single number, by briefly noticing one of the improvements in this culture, that, I am confident, must be rapidly adopted hereafter, throughout the entire delta, and which, more than any other, and perhaps than all others united, will inevitably contribute to this result.

From the unvarying level of this sugar region ; the excessive rains that frequently abound during the growing season ; the great heights of the Mississippi and its minor outlets, during the same period, presenting a head of several feet above the level of the cultivated land ; and where the soil is not porous and liable to an excess of water on the surface from this hydrostatic pressure, it is so tenacious in consequence of the predominance of clay, as to hold it to the great injury of vegetation, and from the constant elevation of water in the rear, coming within a few inches of the surface, and being permanently backed up by the waters in the Gulf, are therefore incapable of being changed from each of these conditions separately, and hence, immeasurably more when combined, and bearing upon the same area, it is indicated conclusively, and beyond all cavil or dispute, that *draining, deep and thorough draining*, and the removal of all the surplus water, is the grand agent in rescuing additional sugar lands, and making those already cultivated, vastly more productive than they have hitherto been. This laudable enterprise has already been commenced by a few intelligent planters; yet having been but recently attempted, its results have not yet demonstrated what every principle of vegetable life teaches, nay, compels us to believe they must be, when thoroughly carried out. I shall describe this system as I have seen it on three extensive plantations.

The first is that of Mr. Andrew Hodge, which is bounded for several miles by bayou Barataria. This was formerly one of the numerous outlets of the Mississippi, commencing opposite Lafayette, just above the city, and emptying into Barataria Bay, an arm of the Gulf. Its communication with the river has been cut off by the levée on its right bank, and the bayou now serves as a drain for the Gulf, which, from violent and long-continued winds, sometimes raises the water opposite the plantation to a height of three feet. As but little of this land is higher than four, and much of it not extending two feet above the ordinary level, it is obvious that even a temporary rise must be a serious injury to the growing crop. To prevent this, the entire cultivated land, consisting of some 700 acres, is protected by continuous embankment. Within, and contiguous to this, is a large ditch, communicating with numerous leading and cross-ditches of four to ten feet wide. A canal, twenty-five feet on the surface, and six feet in depth, receives the drainage from all these minor ditches, and conducts the water of the edge of the bayou, where it is discharged. If the water within be higher than on the outside, as

sometimes occurs, it is permitted to flow out by a side cut; but if it be required to sink it lower, as is generally the case, the draining wheel is resorted to. This is twenty-six feet in diameter and five feet wide, and is placed within a small building over the ditch, which is here reduced to a flume of brick-masonry, supported by solid buttresses at either end. After passing the centre of the wheel, the bottom of the outlet curves upward, following at the distance of half an inch the outer edge of the wheel, till it reaches within two feet of the general level outside, when it is discharged, and passes off through self-adjusting iron gates, that open outwards by the pressure of the water, and close from its reaction.

The buckets of the wheel are five feet wide by six deep, and run within half an inch of the walls on either side. They are fastened upon arms, attached to inner rims, which are themselves supported by iron arms, projecting from the centre. They are simply plain surfaces of boards, like those of an undershot wheel, whose direction forms an angle, with a line extending from the outer edge to the centre, of about 10° or 15° . When the flume is full, they strike the water at a very slight angle, the bucket nearly coinciding with the surface, while they throw it out nearly at right angles. The motion of the water, when the discharge has fully commenced, prevents any loss of power, from the seeming disadvantage of the direction at which the buckets enter, and the process of removal goes on at a prodigious rate. Mr. Hodge estimates, that with his engine of forty horse-power, he can throw out, with full ditches, 3,000,000 gallons of water per hour; and that after the heaviest rains, he can deliver all the water which his drains can bring to the wheel, from his enclosure, within a few hours.

The two plantations of Mr. Thomas Morgan, on the left bank of the Mississippi, fourteen miles below the city, embracing some 1,300 acres of cultivated land, are also very thoroughly drained by the use of a wheel, similarly constructed. This is twenty-four feet in diameter, with forty buckets, arranged in the same manner as the one just described. I saw this in operation, three hours after it had been started, to throw out the accumulation from a short but heavy rain, and it had been drawing the water from a canal, five feet deep, and while doing only half work, effectually prevented any accumulation. Mr. M. states, that some rains have produced a fall of four inches, yet that all this body of water which can be led into the main canal, is capable of being expelled by the wheel within ten or twelve hours. A slow drainage continues from the saturated soil, which, of course, requires a longer period for its removal.

The relative position of the two draining machines is different, owing to the difference of location. The first occupies the front upon the bayou, which is on a level with the water in the Gulf; while the latter is placed in the rear, where there is less excavation to produce a descending current, and the swamp, at this point, is on the level with the bayou in the former, and six or eight feet lower than the river in front. These wheels are of the simplest and most efficient construction; and I do not believe that they admit of any improvement in economy and rapidity, in discharging the water for

any similar situation. If the water were required to be lifted much over two or three feet, the reversed action of an overshot wheel of the proper diameter would undoubtedly be best.

The plantation of Colonel Maunsel White, which I also visited, on the right bank of the river, forty miles below New Orleans, has been partially drained by means of a screw; but he informs me that not finding this satisfactory, he has determined on adopting the method before described. Messrs. Benjamin and Packwood, and three or four others, have also commenced the system of wheel-draining. This improvement is in its infancy; but it does not seem presumptuous to predict for it a rapid extension, till it embraces nearly the whole area of the delta. It will reclaim hundreds of thousands of acres not now in use, and render all that is under tillage vastly more productive than it can otherwise be. Its adoption will justify and render available the system of under-draining, which is capable of immeasurably augmenting the crop, and besides being in the highest degree beneficial in preventing the formation of miasma in the atmosphere. But this is a subject reserved for future consideration. Each of the plantations mentioned is under a high state of cultivation, the result of a close supervision on the part of their intelligent proprietors, though neither resides permanently on them; and each has its peculiarities, indicative of a well-directed taste, acting on the features under their control.

After passing through a private canal, reaching five miles directly back from the river, and then through the bayou for twelve more, amid alternate low woodland and swamp prairie, the *voyageur* first meets the cultivated land of Mr. Hodge. Continuing for a mile on the reclaimed front, the bayou, then turns at right angles, and for another mile, borders the plantation. The buildings occupy the lower front, which opens upon bayou Villars, a prairie-bound inlet, that leads to Lakes Oucha (Washaw) and Petit, a distance of but a mile from its junction with Barataria.

Numerous shell-banks abound on these lakes and bayous, and immediately in front of the buildings, on either side, are long piles of them partially imbedded in the earth, and covered with magnificent live oaks. There are also several high conical mounds, of alternate layers of shells and earth, evidently the work of a long extinct race, as no record or tradition remains of their origin. One alone yielded over 100,000 barrels of shells without being exhausted. They are the remains of a species of fresh water muscle, still existing throughout these waters; and their accumulation in these immense banks is yet a problem to be solved, opinions still being divided, whether they are the result of artificial or natural, human or elemental action. I ascended one twenty-five feet high, where the roots of an old oak, five or six feet in diameter, still cover almost the entire surface.

I have often admired the variety of shape, the live oak, the king of the forest, assumes. It alternately resembles the form of the northern maple, the ash, the oak, the elm, and even the weeping willow. I have seen one of these standing on a bank, five feet above the water, yet with its pendent limbs trailing in it. But the aspect of the willow is

much more prominent from its long clusters of waving moss, that sometimes load it down with its long and graceful drapery. Mr. Hodge religiously preserves every specimen of this tree on the plantation, and in addition, has a beautiful young forest of selected trees, which are pushing themselves rapidly into consequence and notice.

In this secluded, yet beautiful retreat, nature seems to reign almost supreme. For miles on the bayou and lakes, not a tree has been cut, nor a stroke been made, that indicates the presence of man. The alligator suns himself in undisturbed quiet; the waters abound in fish that prey only on one another; and the air is filled with the blue crane, the mocking-bird, the red-winged and crow blackbird, the little ampray or papa, and numerous others of the feathered tribes, whose notes make the welkin ring again with their jocund melody. It is through these solitary, yet measureless bayous, lakes, and morasses, that one may wander, and see nature just as she was a thousand years ago, undisciplined by the hand of civilization, unvexed by the hand of toil.

Colonel White came into possession of his plantation before a ruthless onslaught upon the native forest had entirely swept it away, and with a taste, as commendable as it is rare, he has preserved a large grove of native trees, which sweep from the river's bank around and far behind his domicile. Mr. Morgan found his denuded, but by a judicious selection of forest-trees (among which I find a native elm conspicuous), he is rapidly recovering the ornamental grounds with their appropriate adornments.

Thus far I have seen on the low lands but one species of fruit-tree, in an apparently natural and healthy condition. The apple grows up long, mossy, and spindling, and with the peach and plum, yields a thin foliage, straggling specimens of which not unfrequently hang on to the branches throughout the year. Occasionally, though seldom, do either bear satisfactorily. The fig grows everywhere luxuriantly, and with a full, rich, and dark foliage, that indicates the greatest health and vigor.

The orange has been a most successful bearer throughout most of the delta; but within a few years, has in many instances been almost annihilated to exterminate a parasitic insect that fastens upon the trunk, the limbs, and foliage. Every known remedy has been hitherto tried in vain, and as a last resource, the limbs have been lopped off, and in many cases, even the trunk cut down to the ground, to give a fresh and more vigorous growth, that might possibly resist attack. Colonel White informed me that the products of his scattering trees had yielded over \$1,000 in a single year, yet this disease had compelled him to cut them down to naked trunks. There is evidently a wide field open for study and experiments in the fruit-trees of lower Louisiana.

In future numbers, I shall continue the subject of cane cultivation, though leisurely, and perhaps with considerable interruption; but I shall not relinquish it till the best modern practice, and hints for its further improvements, are fully spread out before the American planter.

R. L. ALLEN.

New Orleans, April 27th, 1847.

SOUTHDOWN SHEEP.

AMONG the many valuable and beautiful varieties of stock, imported of late years into this country, we would call the attention of the public to the Southdown sheep especially, not only as an example of great intrinsic excellence, but as an instance of the admirable results of selection and subsequent management, when accompanied by a thorough knowledge of the principles of breeding.



FIG. 35.

The animal from which the present race of Improved Southdowns originated, was small, hardy, and unsymmetrical; *always* possessing, however, great weight in the hind quarter, a point that in the whole course of its improved breeding has been jealously preserved; while much pains have been taken to increase the size of the fore quarter, which nevertheless yet weighs three or four pounds less, a difference not objected to by breeders of sheep, who think that the weight should be found in the most valuable parts. And here we quite agree with them; we never could believe the fore quarter, however large and loaded with fat, so palatable or profitable as the hind quarter; which seems the general opinion, since the former is never worth so much in market as the latter. The Southdown owes the weight of its hind quarter to the full, round form of the leg, which thus furnishes a large ham peculiarly adapted to smoking or drying, like venison, to which it is scarcely inferior; while the sweet, juicy meat, short-grained and well marbled, gives the mutton a just claim to the high reputation it has obtained in market. Unlike many varieties it has much lean and little *outside* fat. As is generally the case with animals of this character, they give a great deal of profitable meat for their appearance, and the butcher is rarely disappointed in their *proof*, while the proportion of offal is small.

The Southdown, after a series of judicious breeding, attained a degree of symmetry and compactness, which the foregoing portrait will serve to il-

lustrate, being a fair specimen of the improved breed.

The points of Fig. 35 may be briefly enumerated as follows: A fine, clean head; eye bright, with the orbit not too prominent; short neck; straight back; ribs springing high and bowing; wide loin; tail set on well up; long from hips to rump; very deep in the flank; full twist; round, projecting brisket; forelegs standing perpendicularly under the body; sound hoofs and well woolled on the belly and thighs.

Such were the sheep, as bred by the late John Elman, of Glynd, Sussex, one of the first and most successful improvers of the Southdowns; and such are the sheep now kept by his son, the present J. Elman, on the same estate. From this source have sprung most of the improved breed, which were distributed over England by annual drafts from Mr. E.'s flock; and though many are now breeders and exhibitors of this variety, and have attained as such, great eminence, yet we believe they will readily acknowledge their indebtedness to the Glynd flock, for their earlier materials.

A striking and valuable characteristic of the Southdown breed, is their great power of endurance; a quality which their native hills are well calculated to test. These consist of large tracts of uninclosed land, in Sussex and the adjoining counties, whose altitude and hilly surface, together with the thin chalky soil, covered with scanty but sweet her-

age, render it only fit as pasture for sheep of the hardest habits. Here large flocks of the Southdowns, attended by shepherds and their dogs, are fed; often being driven several miles to and from their pasture, whose barrenness obliging them to feed over a large extent of ground, requires an amount of travel few sheep would endure; while they not only *live*, but thrive on pasture so poor, that they little fear the encroachment of any other of the improved breeds. They have been tried successfully on the high, bleak mountains of Wales, where their industry and vigorous constitutions have enabled them to equal in endurance, at the same time that they far surpassed in symmetry, the goat-like breed of that country.

But this power of enduring poor fare, does not unfit the Southdowns for better quarters; unlike most of the world they bear prosperity well. We find them in the fertile county of Cambridge, in the fold of Mr. Webb, with crosses of the blood of the Glynd flock, attaining the weight of forty pounds per quarter and above, and bearing away the prizes of the Royal Agricultural Society from all England. Thus we see them on the rich meadows of the lowlands, producing more wool, acquiring even earlier maturity, and reaching a larger size than upon the Downs, where they seldom exceed thirty pounds per quarter: a proof that individual size greatly depends upon the quantity and quality of food, or in other words upon the *strength* of the land on which the animal is fed. The strong constitution of this

breed really enabling it to flourish in every situation where sheep are found, is one of their inherent properties, and so highly appreciated by breeders, that Sir John Sinclair quotes the Southdown as the *standard of perfection* in this respect. As an additional proof we may mention that they bear *folding* (a very severe test of constitution) better than any other breed, and can be kept in large flocks without loss or inconvenience; a circumstance having no little weight with sheep-masters, who know the disadvantages of a deficiency in this respect. Another result of this property of great importance in their native country, is the *close stocking* they will bear; it being now generally conceded, we believe, in England, that they will "*live on the land*" in the proportion of three to two over the other improved breeds. These hardy animals seem to have set disease at defiance; the rot, scab, and red water, being unknown among them, while their sound, deer-like hoofs are perfect models of what a sheep's should be. They are very prolific, one-third or one-fourth of a flock usually producing twins, and bringing them up well, the ewes being excellent nurses and fond mothers, so that as many lambs as there are ewes, is a common yield where numbers are grown.

The wool of this breed, like that of all mutton sheep, has but small pretensions to fineness, the fibre being about the 600th of an inch in diameter; a quality well adapted to our farmers' home consumption, and that which our country machinery can work to advantage—finer being more difficult to manufacture, and coarser not felting sufficiently. The fleece usually averages four pounds per head from the ewes, and as high as eight or nine from the bucks; being very close and compact, and not *parting* on the back, it forms a complete protection against snow and rain, no trifling advantage through a northern winter.

But in speaking thus highly of the Southdowns, we do not mean to include all the races of *black-faced* sheep found in England, there being no less than six distinct varieties, none of which, with the exception of the Norfolk and Southdowns, have been objects of much attention or improvement. The Norfolks, however, even in their own country hold no rivalry with the Southdowns. Some of these inferior varieties have, we believe, been imported into this country, but we are confident a comparison with the improved breed would soon reduce their pretensions, and rank them among the host of common and worthless sheep with which England yet abounds—possessing little excellence in either form or wool.

We would now call the attention of the public to the remarkable adaptation of the Southdowns to the various parts of our own country. On the bleak hill side, in the fertile valley, in the home-stead meadow, or the vast prairie, they are alike flourishing and content; and whether facing the rough blasts of a northern winter, or luxuriating in the warm sunshine of a southern season, they will find but few superiors among the woolly tribe. Quickly acclimated, they endure the long cold winters of the northern and eastern states with no other food than hay; coming into winter quarters in fine order, and retaining their condition through six months of dry feeding. In the south and west

the shorter and warmer season being more congenial, would allow of their living as on their native downs, on but little hay and a few roots.

Where mutton is an object with the farmer, it is desirable to have a sheep possessing the property of fattening rapidly with small consumption of food, and we believe the Southdown is eminently calculated to fill this niche. Their early maturity and quiet habits peculiarly fit them for graziers in the vicinity of large cities or towns, where their superior quality of mutton would always command the highest price; while their capability of travelling renders them great favorites with the drover, and enables the more distant farmer to raise them with advantage. For the farmer keeping but a small flock for family use, we are convinced that no breed is more suitable or profitable, both for wool and mutton, than this, or some of its crosses. With the *Leicesters* they produce a large animal of good form, great aptitude to fatten, and very early maturity—living on less and poorer food than the long-wooled sheep. Crossed with the *Cotswolds*, the produce possesses greater aptitude to fatten, combined with power of endurance. As an instance of this cross, we need only refer to the two wethers bred and fed by Mr. McIntyre, of Albany, that attained the great weight of 210 pounds, and this without extraordinary keeping. The cross with the common mongrels of our country, when good individuals have been selected, has been very valuable; everything being gained in form and constitution and nothing lost in wool, while the maturity and thirstiness of the native has been much improved.

Some of the best importations into this country from the flocks of Messrs. Elman, Coke, Webb, and Grantham, are in the possession of Messrs. Rotch, McIntyre, Cope, Waite, and Bagg; Messrs. Sherwood and Allen, and several other gentlemen, also have excellent specimens of this breed, having purchased their stock from Mr. Rotch. We are not disappointed to find that the Southdowns maintain here the high reputation they enjoy at home, satisfied, as we are, that they only require to be better known to be universally admired for their fine forms, and highly appreciated by the farmers for their superior mutton qualities.

MANAGEMENT OF HONEY BEES.—NO. 9.

Swarming.—The cause of swarming, in all cases, is an excess of population, the bees not having room for all to work to advantage. When bees are placed in very large hives, or when they are quartered in an open room, as is sometimes done, they never swarm. Swarming may also be prevented by affording additional room, either at the bottom, top, or side of the hive during the swarming season. As a matter of profit, in the increase of stocks, bees should never be placed in rooms, or in hives larger than twelve inches square. If we should hive two swarms, the one in a hive *two* feet square, and the other in a hive *one* foot square; or in hives of the same solid contents, though differently shaped, the result of the increase of each, at the end of five years, would be, with good management, about as follows: viz., the swarm in the larger hive would about half fill it with comb the first year; the second year it would be completed, but no new

swarm. The following spring would find the hive full of comb, but only half full of bees; and it would require the third year to replenish, and so it would continue *ad infinitum* yearly replenishing its lost population, and at the end of fifty years you would have no more bees than when you commenced!

The other hive would be plumply filled the first year; the second year a couple of prime swarms might be calculated on; the third year, we will say, only one swarm each (a very low estimate), we now have six swarms; the fourth year we will double to a certainty, and the fifth year the same, making twenty-four swarms, while the larger hive "stands alone in its glory," if not entirely annihilated by the ravages of the moth, the more probable result of the two. In each hive there is but one queen, which is the source of all the increase. The eggs are laid by her. A hive one foot square is as large as she can use. In such a hive all the workers that she desires to carry out her ends can be fully accommodated. Ten thousand bees to a hive in the spring are all-sufficient—more would be but an incumbrance; hence, we find, that though there be one hundred thousand in a large hive during the breeding season, the following spring finds them departed to that "bourne whence they never return."

The principal laying of the queen depends much upon the mildness of the spring and much upon the strength of the stock. I am fully satisfied that many of my stocks are in progress of breeding through the entire winter, to some extent. Indeed that such is the case with any populous stock we have abundant proof, in cases where the stock has been destroyed in the heart of winter, as an experiment to test the fact. Where such is the case, there is not that diminution in the number of the bees from fall to spring that ordinarily occurs. In weak stocks, the internal heat necessary for the maturing of the young brood cannot be produced, and we find that such stocks are compelled to await the approach of warm weather. Here we have the basis of prosperity in a nut-shell. If we cannot so manage that our hives will be populous to their greatest capacity we may as well give up the idea of perfect success at once.

If the hive be well filled, the queen is fully aware that a large portion of her increase, which the laws of nature compel her to give, must leave her domicil; and she also, through instinct, learns that each swarm must be provided with a queen-regent, like herself, in order to perpetuate their species. These queens, or rather princesses, are produced from the common egg from which issue the workers, or from a common worker-grub, in its primary stages of advancement by a particular treatment. This fact is shown by the mode of artificial swarming, now practised to some extent; the philosophy of which is this: If a piece of comb, containing the young brood of different stages of maturity, be attached to the top of an empty hive, and a quantity of bees be placed therein, having no queen, they will select a certain aged grub from the comb afforded them, and by a particular process of nursing and feeding (the nature of which never was nor ever will be known by us) they will produce a perfect queen, and proceed in their avocation as usual. Without this piece of comb no power or ingenuity of man

could cause the bees to perform a single day's labor.

As each swarm requires a *princess* from the old stock from two to six are generally produced every spring, and such as are not wanted are immediately put to death, as it is entirely out of the question for more than one to exist in the same hive, unless it be during the short period awaiting the issue of a swarm. A very remarkable circumstance occurs in the development of these young princesses; they are so timed in their maturity as to issue from their cells respectively just as they are wanted to take their departure with the swarms. That is, giving them a short period after quitting their cells to gain strength for the journey, say forty-eight hours. It must here be borne in mind, that where there is sufficient room, as in very large hives, the queen sees no necessity of swarming, and consequently takes no measures to furnish the young princesses.

Indeed it often occurs that she neglects to do this in cases where the greatest necessity exists for them, and as a swarm never leaves in such a case we find many of our hives loaded with bees, clustering around and below during the entire warm season, which we watch with anxiety from day to day, or hour to hour, wondering what can keep them spell-bound to their tenement! As the needle invariably points to the north pole, and no human power can change this law of nature, so is the queen-bee the load-stone that draws every bee to her. The broiling rays of a summer-sun, famine, nay, the prospect of a certain death cannot move them. But when a young queen sallies forth on the wing of uncertain destiny, she is the magnet that draws after her a goodly portion of the animated mass. Whither she goes they follow, and as she would gather her subjects around her, preparatory to the journey, she selects a slender branch of some small tree and alights. The bees at once commence clustering around her, perhaps some few minutes before the last have left the hive. Whether the bees ever select a habitation before leaving the hive is a matter of doubt with me. They sometimes do take at once, after issuing, to some suitable tenement, such as a decayed hive, or some hole in a building, or perhaps they may cluster for a few minutes, and then rapidly take their flight to the forest. All of this may be and probably is concerted after swarming. In confirmation of this, I once had a swarm issue from the hive in which the day previous it had been lodged, and after revolving a long time in the air, settled down upon the very hive from which they had just issued. Now here is an instance where a particular location is fixed upon while on the wing. What caused this singular operation I cannot say, unless it was that they took some dislike to the hive and afterwards concluded to try it again. In order to remove such a difficulty, I took another hive, and as soon as they had fully clustered set it upon a table, and also set the hive with the bees upon its side near it; then with a dusting brush swept them gently down upon the table, and they quietly entered the new hive, and did well.

The number of bees produced from April to July, in a strong stock, may be estimated at from 20,000 to 30,000. The first swarms I have generally found to be the largest, though some consider that in general the second are. The third are usually small.

The period between first and second swarms is nine days; between second and third six or seven, and if yet another, the next day or two. The time, however, is dependent upon the weather. If we have hot, sultry weather, the bees mature more rapidly, and are increased in numbers, and consequently throw off swarms faster, but we need never look for a second swarm sooner than a week, and if the weather be cold and wet, it may be delayed fourteen days.

There is a catastrophe attending a rainy spell of weather during the swarming season, that many persons may not be aware of, which is this: The queen, in laying the foundation of new princesses, calculates upon their maturity at certain periods; when, if the weather should permit, swarms would be ready to issue, according to her principles of the science; but as she cannot foretell the weather, she is often caught with three or four of these royal scions on hand, and the weather does not permit the issue of a swarm for several days, as fine weather for such an operation alone will do.

As these princesses ripen in maturity, a spirit of jealousy begins to be engendered, that sets the whole hive in an uproar. Here is a sad dilemma! The old queen expects to go off with the first swarm, in person, as soon as the weather becomes fine; in the meantime there are several young expectants of assuming the reins of government, who begin to show a spirit of revolt as they grow in strength and age. If this state of things last for a week, through rainy weather, their jealousy becomes so furious that a general fight of extermination takes place, and the one that finds herself alive last assumes the reins of that stock; and if all the princesses have matured there will be no more swarming that season.

This is another reason why bees do not swarm, when we think they do not know what is for their own interest; but I assure the reader, that when they do not send off swarms, it is for a good and sufficient cause, though we may not be able to comprehend it.

T. B. MINER.

Ravenswood, L. I., May, 1847.

BENEFIT OF ASHES TO CORN.

As cultivators are requested to send in facts, the result of careful experiments, and the corn-crop has become the "glory of our land" I will state the circumstances of an application of wood-ashes, that was applied to that grain many years ago and noted down at the time. The variety of corn cultivated was the hard eight-rowed white having a small cob.

The objects aimed at were to determine whether wood-ashes acted beneficially to this crop, and to ascertain the proper quantity and their comparative efficacy whether unleached or leached. The soil was a deep and strong loam, which had given a fair crop of corn for six successive seasons, varying little save in being affected by favorable or adverse summers, with no other manuring than the usual quantity put into the hills at planting-time.

Previously to plowing, barn-yard manure, at the rate of about six hundred bushels to the acre, was spread over the ground. Just before the second hoeing, June 13th, 1827, I selected four rows of

equal length, size and vigor, that had no missing hills. To parcel No. 1, no application was made. To parcel No. 2, one gill of leached ashes was sprinkled about each hill. To parcel No. 3, one gill of unleached ashes was applied. And to parcel No. 4, two gills of leached ashes were given. All the four rows grew luxuriantly, as did all in the field, and during the various stages of growth, I could discover no difference in the size of the plants, the number of ears set on a stalk, nor in the length of the husks. In fact, they appeared so very much alike, in all these respects, that I much doubted whether I should find any inequality in the measures at harvest time.

Yet the result, at harvesting the crop, on careful measuring, was, that the ashes had increased the quantity in *each of the rows* where it was applied, over that of the one to which *none was put*, at least *fourteen per cent*. Rather the greatest yield was obtained from the row to which *one gill of leached ashes was given*.

In answer to the question, in a note under a communication from me, contained in Vol. 5th page 151 of the American Agriculturist, I will now reply (pardon the delay) that the soil was "rather a strong loam" deep and incumbent on a white clay.

ARCH'D JAYNE.

Setauket, March 12th, 1847.

TO WOOL-GROWERS.

NUMEROUS liberal minded persons interested in the wool business having placed funds at our disposal for the purpose hereinafter mentioned, we shall on the 1st day of October next award and pay the following premiums, viz:—Ten Gold Medals worth ten dollars each for the ten entire clips of most valuable fleeces for clothing purposes. Ten Gold Medals worth ten dollars each for the ten entire clips of most valuable fleeces for combing or worsted purposes. Ten premiums of ten dollars each for the ten best conditioned entire clips of Saxony wool. Ten premiums of same amount for the ten best conditioned entire clips Saxony grade wool. Ten premiums of same amount for the ten best conditioned entire clips of Merino wool. Ten premiums of same amount for the ten best conditioned entire clips for combing fleeces. All wool-growers throughout the United States are invited to compete for them.

We would again invite the attention of wool-growers to our remarks on the subject of preparing wool for market as published in the reports of wool-growers' meeting at Steubenville, Ohio, ... 10th of February, 1847, also in the Agricultural and other papers of the country.

All bales of wool designed for our care should have the name of the owner or grower plainly written or printed on them in full, together with our address as follows:—"Perkins & Brown, Springfield, Mass."

All lots of wool intended to compete for the premiums should reach us by the 1st of August next. Growers may receive premiums if their wool be put up and marked separately, even though the wool may come through the merchant or other wool-dealer. Any further contributions from wool-growers, or other public spirited persons, will be expended in

preparing the medals—publishing a report and in additional premiums.

All editors of periodicals friendly to agricultural pursuits throughout the United States are respectfully requested to publish the above.

PERKINS & BROWN.

Springfield, Mass., April, 1847.

THE HORSE.—No 5.

THE ARM.—The arm consists of two bones, and extends from the elbow down to the knee. The longest of the two is called the bone of the arm, or spoke bone; is nearly straight; bears at its upper end the lower shoulder bone, and rests at its lower end on the bones of the knee. It is in front. The hinder and shorter bone is called the elbow bone. It has a long and powerful projection behind, called the elbow, which extends from the lower bone of the shoulder down to the middle of the front bone, and there ends. These two bones are united by cartilage and ligament, which are changed gradually in horses of five to eight years of age, to bone, and then the arm consists of only one bone. The short bone acts as a brace. The weight of the body and the shock of motion falling on the arm, are divided between the two bones. The cartilage and ligament in the young horse between them, assist to resist the combined effect of weight and jar; in the old horse, the united bones do the same. These are

made one by the inflammation and irritation arising to the cartilages and ligaments, from the great work imposed on them. These two bones are surrounded by very tendinous muscles of great volume and force, which are immense where they attach to the elbow, and the cartilages and ligaments correspond in power. The arm of the horse should be large, as his strength in front lies mainly here. It should be so formed as to allow the attachment of large muscles, and of their action to the best advantage. A large and properly formed elbow is very necessary for this purpose. The longer the elbow, the better will the muscles

MUSCLES OF THE INSIDE OF THE ARM—FIG. 36. act, as they will exert their power in lines nearer to the perpendicular than with a short elbow.

The Muscles of the Arm.—We have already described the muscles, *r*, *r*, *s* (fig. 25). These were common to both arm and shoulder, as indeed are all the muscles of the arm in some degree, but those were peculiarly so.

The chief muscle of the arm is the extensor or extending muscle employed to raise and project in front the bones of the leg below the knee, viz.: the

cannon or shank, and splint bones. It is seen at *x*, fig. 25. It is attached at its upper end, to the head of the lower bone of the shoulder at the point, and to the ligament that covers the joint at the point of the shoulder; the upper part of this muscle is mainly flesh with small tendons; at its middle part, it becomes tendon almost wholly, and a little further down entirely so, and proceeds as a tendon, round at first, but flat at the knee, where it attaches itself. It is continued on and attached to the upper end of the shank bone.

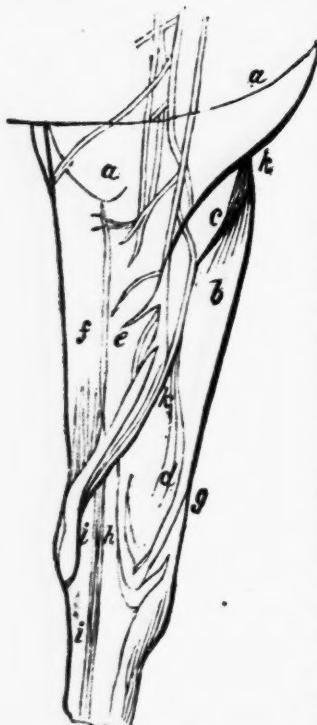
w, fig. 25, shows the *extensor of the foot* or muscle extending the foot. It is the second in importance in the arm. It starts from the shoulder joint, being attached to the fore part of the head of the lower bone of the arm. It is flesh where it starts, runs downward, and before it reaches the knee becomes tendinous wholly, and proceeds on to the fetlock and pastern, where it attaches itself by ligament covering and adhering to the pastern joint. It not only raises and extends the foot, but also the knee.

u and *z*, fig. 25, are tendons of two more extending muscles. These serve the same purpose as the other extensors. *z* runs obliquely across the muscle *x*, confining it in its place.

The muscles employed in bending the leg backwards, are numerous and powerful. One is seen at *b*, on the leg, in fig. 25, and at *b* in fig. 36, and is called the middle bending, or *flexor* muscle of the shank and splint bones. The *external flexor* is seen at *v*, fig. 25. The *internal flexor* is seen at *e*, fig. 36. There are two muscles among others whose object is to raise the foot. They are called the *perforating extensor* and the *perforated extensor* of the foot; the *perforating*, so called, because it runs through the other, and the *perforated* because it is run through by the perforating. They lie at the back of the arm. The *perforated* one, joined to the *perforating*, forms a large fleshy mass. As it goes downward, it becomes tendinous, and at the knee is fastened down by ligaments; below the knee it widens, and partly encloses the *perforating flexor*, and they run down together to the fetlock, where the tendon of *perforated* muscle forms a ring around the *perforating* tendon; below the fetlock, the *perforated* tendon divides and attaches itself on to the pastern bones. Both the *perforating* and *perforated* are enclosed in a sheath of dense cellular substance which is attached by fibres, and they are supported and bound round by many ligaments.

The *perforating flexor* muscle has a common origin with the *perforated*. It is muscular further down the arm, and lies before the *perforated*. It is confined strongly at the knee by ligaments. At the knee it is round, and is partly enclosed in the *perforated*; it proceeds to the fetlock, where it is enclosed wholly by it. When the *perforated* tendon divides and goes to the pastern bones, the *perforating* comes out of its enclosure, and goes into the back part of the foot.

One of the most powerful of the muscles which bend the arm is the *flexor* of the arm. It arises from the lower end of the ridge of the shoulder blade in the form of a large round tendon, and runs in a groove between the two elevations in the upper part of the front of the lower bone of the shoulder. The groove is lined with smooth cartilage, and an oily fluid fills it, for the tendon to



move in, free of friction. Leaving the groove and passing the head of the lower bone of the shoulder, the tendon becomes a round fleshy muscle filled with tendinous fibres. It makes the bulk of the front of the arm mainly. It is attached to the head and neck of the bone of the arm, and to the covering ligament of the elbow point. The whole of the leg below the arm is bent, carried forward and upward almost wholly by this muscle. It is a muscle of great importance and power.

a, in fig. 34, represents the muscles crossing the breast. It arises from the first four bones of the breast, attaches itself to the under part of the lower shoulder bone, and crossing to the inner part of the arm, runs some way down the arm. It binds the arm to the side of the chest; keeps the leg straight in front when the horse moves. The weight of the body is thus received on the legs in an easy and safe direction, and most advantageous for the full play of all the muscles concerned in forward motion. This muscle is employed more in sustaining weight and keeping the leg in a straight direction, than in motion. When it becomes weary, the horse spreads out his fore legs and falters. Of course its duty is important and extensive, and it must be large to be equal to its task.

The flesh parts of the muscles contain the power by which motion is procured. They contract and draw the tendons, and motion is the result. Below the knee and the hock there are no muscles, but only tendons. Of course all power of motion is above the knee and hock.

This completes all we have to say of the muscles of the fore hand. In our next number we shall take up those of the quarters and hind legs.

Muscles of the back.—These are in chief the surface muscles of the ribs; the transverse or crosswise muscles of the ribs; the long (or longest) muscles of the back; and the spinal muscles of the back.

The surface and transverse muscles of the ribs extend along the whole of the back and loins, and are connected with the pack-wax or ligament of the neck. The pack-wax is inserted into them. They are attached to the last spinal bone of the neck; and extend from thence and from the pack-wax along the back to the part of the ribs nearest the spine or back. At that point they attach to the ribs. Their office is to raise the ribs, and assist thus the expansion of the chest, and give full play to the lungs. These muscles are also put in use when the head is to be raised or lowered. By contraction they draw the tendon of the neck or pack-wax backward, and elevate the head; by relaxing, they extend the pack-wax forward and lower the head. These muscles will be found to be large in every horse that carries a fine bold head and neck; and full also, in horses of superior breathing powers, as they are instrumental in that free and perfect action of the lungs so necessary to good wind.

The long muscles of the back constitute a large mass, and by far the largest mass of muscle at this point. They attach to the upright and horizontal spurs (or projections) of the spinal bones, and are mingled with the muscles of the shoulder in front and with the muscles of the haunch behind. Into the long muscles of the back, the pack-wax is inserted by its branching fibres at its lower end; the

fibres of all the other ligaments along the upper side of the back are embedded in, and the fibres of those ligaments are diffused among the mass of these long muscles. By these muscles, the various motions of the spine, back, and loins, are made; and they are the only means by which those parts can have their power of motion put in action. Inserted into the muscles of the haunches, when the haunches are kept on the ground, these muscles are employed to raise the fore-quarters in rearing; inserted into the muscles of the fore-hand, when the fore-legs are fixed, the hind-quarters by them are raised in kicking.

The spinal muscles of the back extend from the upright spurs or projections of the bones of the loins to the back bones, at the withers. These muscles are thick and strong about the withers, and are extensively attached to them. When the withers are high, they are the larger in mass, and more strongly attached, and their power is proportionately increased. From the withers they proceed upwards to the three lowest bones of the neck, to which they attach. They are mainly concerned in elevating the fore-quarters in motion, and they produce, when large and powerful, high and safe action, and contribute to speed. High withers are valuable as affording large space for the muscles of the back to attach to, and of course the muscles will be in proportion; and hence, to the good judge, they are an evidence of a capacity for good action, and generally, for speed. High and lofty action will always depend on high withers.

DIVISION OF AGRICULTURAL LABOR.

THE perfection to which the various arts have arrived in their several departments may be distinctly traced to the system of division of labor. So it is with science—with commerce; and so it must be with agriculture in America, if we ever succeed with its advancement in any great degree of perfection. England, taken altogether, is probably the best agricultural country in the world; carries its divisions of rural labor to almost as nice extremes as its mechanical; and for this reason the farmers of England excel us infinitely in the perfect manner in which the work is accomplished, and the ease with which they manage their otherwise complicated farming operations. From this practice of a division of labor is it that we find so few among English, Scotch, and Irish laborers, who understand all kinds of farm work. They are either plowmen, ditchers, reapers, stackers, herdsmen, and shepherds, or teamsters, or two or more of these several branches of labor combined, rather than the "Jack of all trades, and good at none," which is not altogether universally, but too much the case with our American laborers who are brought up—not educated—to do a little of everything partially, and nothing really well. I speak this not in disparagement, but as the inevitable consequence of our system of all work on our farms—a dabbling at everything in a small way, and at nothing in the main—a system well enough for the small farmer, who tills only a few acres; but totally unworthy the attention of the extensive farmer who occupies his hundreds or his thousands of acres, and prosecutes agriculture as a business on the scale that the manufacturer and the merchant prosecute theirs,

and arrives at ultimate wealth and success in his pursuits.

The common opinion entertained by the more bustling part of our population in the North, is, that farming, or the business of agriculture, is an uncouth, unpleasant, drudging, and unprofitable business—fit only for the rude, and the vulgar, whose tastes are far beneath a high standard of intelligence, at least, if not absolutely beneath that of an ordinary one. That perpetual physical toil and inadequate returns are its only recompense, and therefore it is fit only for those whose brains are deficient, or whose circumstances in life have prevented them from rising in the more favored pursuits, or professions of life. Whether this opinion be well or ill-founded—and I conclude it is partly both according to the individual cases on which it is based—I shall not take the trouble to argue; but if taken as a whole, the aggregate of wealth, prosperity, and happiness, according to the capital, toil, vexation, and disappointment, connected with commercial and professional pursuits, is greater than that of the intelligent farmer, I shall be happily mistaken. But the question now is, are not we as farmers, in America, very far behind our brethren who are engaged in other branches of industry, in the systematic arrangement of our business, and in the profitable division of our labors? I think so; and propose to devote a few moments to an examination of the subject.

Our southern brethren—and I speak in all kindness—from the very fact that they are compelled to work their estates with a rude and an ignorant “force,” have adopted the plan of turning their attention to one principal crop. To that their entire labor is directed, and of course to its most economical production and profitable result. True, some even among themselves contend that this system is wrong, and that each planter ought to raise, with his cotton, his rice, or his sugar, the corn, the pork, and the other commodities for the consumption of his establishment, and thus save his money at home while diverting a part of his labor and force to those objects. This is as it should be; yet at the same time it will be best to keep the single object in view, and devote their main attention to that which they well understand, and in which they are sure to excel. It should be much the same with us; for after years of experience I am entirely satisfied that when anything further than a mere family support is designed, or the cultivation or improvement of any considerable number of acres is pursued, a less complicated system is demanded, and a fewer number of objects should be comprised in our productions than is generally the case north of the planting States.

Is not the multifarious system of farming too often pursued in the northern and middle states the true secret of the want of general success with our larger farmers, and the really bad husbandry of many of them? And is not the toilsome life of the common farmer, already referred to, the result of this diversity of production, and the occupancy of his time to a too laborious extent, and the consequent confusion and want of system in his business? I think so.

What would be the probable success o' a man ever so well educated, who should combine the three

professions of law, divinity, and physic, in his pursuits? Would he excel in either, or would his life be anything but a round of toil, anxiety, and mortification? I fancy not. Or what would be the prosperity of one who should mingle the pursuits of an extensive commerce with ordinary merchandise and mechanical pursuits on a large scale, and embrace the whole in his occupations? It is needless to say that not one individual in a thousand would succeed by this complication of business, and that what was attempted to be done would be badly executed, and no improvement expected in any department whatever.

So much for the principle. Not that I would apply the productions of the farm to a single staple alone; but the capacity, taking into consideration the position, climate, and all the circumstances connected, of the farm having been ascertained, and its best production or productions settled, one or two of those products should be the main objects which should occupy the attention of the farmer; and he will under such system almost certainly succeed. It may be asserted, to be sure, that some portion of our country, in its individual farms, is equally fitted for the production of the grains and of grass. That wheat and corn, and the coarse grains and roots and grass and fruits flourish equally well; and when so, good economy requires that the farmer should produce all these in proportion, or at all events equal to the wants of his family and the demands of his laborers and of the market. Now this may be so, and it may be not. To know exactly, the farmer should consult his own inclinations, and the situation and inclinations of his family, for these have very much to do with the matter. In fact, the adage “know thyself,” and in addition “know thy family and estate,” can never become more applicable than to the intelligent husbandman who is planning out for future years his system of agriculture. Those possessing such soils as are above alluded to, are fortunate in having a choice of cultivation; but it in no measure detracts from the weight of the proposition, that one object should chiefly engross the cultivator’s attention.

And here let me pause and remark, that it is not intended now to advocate the system of slavish toil adopted by too many of our successful farmers, who commence life in penury, and by a system of excessive labor amass a competence only to toil on, making themselves and their families still greater slaves in proportion as their means increase; and to whom the idea of a rational leisure and its grateful enjoyments is an utter stranger. Not at all. The system to be recommended is that of an intelligent, progressive agriculture—a system giving sufficient leisure to the mind, healthful labor to the body, and abundant occupation to the thoughts, together with cheerfulness of disposition,—the perfection of enjoyment, if such degree of enjoyment for any time there be, in this humdrum world of ours. And this system, we contend, is quite practicable in our country in all situations where the soil is worth cultivation, let it be adapted to whatever branch of husbandry it may.

There are few soils known that are not better fitted for the successful cultivation of some crops than of others, and of the production of some staples than of others. And such as can be most easily

and cheaply produced when markets are convenient, and the cost of exchange is not too great, should in all cases be the main product of the farm. For instance, he who has a fine grazing farm, natural to the growth of the best grasses, will better turn his entire attention to wool-growing, stock-raising, or the dairy, than to only a part of all these, or a part only of either of them, and the balance of his time and labors to the growth of grains; and the possessor of the warm and arable soils where the grains are easily grown, and not so friendly to grass, will better consult his interest to enforce his whole attention to the grains and their most perfect and abundant production, with sufficient grazing to turn his straw into manures, than by multiplying his staples, give a divided and imperfect attention to all. The confusion, too, resulting from the perpetual change of labor of one kind to that of another; the imperfect, heedless, and slothful manner in which that labor is too generally performed in America by our "Jack-at-all-trade" practice, is a great drawback to the perfect and economical execution of farm work, and is an evil from which there is no present prospect of exemption. The mingling, also, of so many kinds of labor following one upon the heels of another, and as a consequence many of them altogether out of season, is attended with partial loss and perpetual anxiety and care, with unremitting and slavish toil to the farmer himself, or he is otherwise cheated out of half the time of his laborers and the loss of half his crops, with a perpetual sinking of his capital in the non-production of his soil, the neglect and decay of his implements and farm structures.

On the other hand, if but one or two objects comprise his attention, although at times and in certain seasons extraordinary labors may press upon him, the husbandman is prepared to meet them promptly and efficiently; and these once passed, they bring a season of comparative repose, which gives him leisure for reflection; an opportunity to investigate all the subjects connected with his pursuits, and the means for improvement to its utmost extent, and the particular staples to which his attention is directed. Added to all these, he has time in the proper seasons for such recreation with his family and friends as may promote their mutual enjoyment and welfare.

These are some of the advantages of a division of our agricultural labors; the adoption of which has given to the best agricultural countries of Europe their astonishing ascendancy over us in the extent and perfection of their products. From this subdivision of Agricultural labor has grown their system of fairs for the sale and exchange of all kinds of farm products, and farm stock, where each one, at the most profitable moment, may dispose of his surplus of whatever kind, and apply its proceeds to other and more seasonable objects of his attention. Such may hardly be anticipated at present in our own country; but the time may eventually come when we shall approximate to the better systems of commercial agriculture adopted abroad. At all events, the advantages of *singleizing*, if I may coin a word, our agricultural products is manifest; and no doubt can be entertained that the most successful husbandman, to any extent in his occupation, is he, who well understanding the capa-

bilities of his estate, adopts that mode of husbandry to which it is best fitted, in one principal item, and prosecutes that with the ability of which his advantages render him capable.

When the larger farmers of our northern and middle States shall have extensively adopted systems of this kind, then will they excel each in his own particular department; a feeling of rivalry and mutual interest will be excited; individual reputations will be reared and sustained, each conspicuous and honorable in its kind, and the entire agricultural community will experience the benefit of that of which, not now seeing, they cannot imagine the importance; a community of husbandmen, all of the highest intelligence in their own particular pursuit, and each producing the best and the most of which its kind upon the soil, and under the climate where produced, is capable. A spectacle gratifying to behold, and abundantly remunerating in its results.

Such is the condition of the best agriculture of Europe. Such, too, is the condition of the best American agriculture. Many instances may be named where the people of particular and very considerable sections of our States are engaged as wheat-growers, corn and pork-producers, stock-traders, graziers, dairy-men, wool-growers, orchardists, &c., &c., in almost entire communities. Where such is the case, do these branches of agriculture excel each in its kind; and in such communities is the character of its husbandry, according to its class, of the highest order; all, the results of a division of labor. It gives to each one confidence in his pursuit, respectability to the mass, and is full of individual benefit in the freedom from distracting care and corroding anxiety; the bane of all real enjoyment and satisfaction. Let us of the agricultural community imitate our brethren of other professions. Let us, as our merchants, our mechanics, and our professional men have done, divide the realm of husbandry, and conquer success.

LEWIS F. ALLEN.

Black Rock, April, 1847.

THE PINE-TURNIP.

In receiving a few turnips from my father-in-law, in New Jersey, this spring, I noticed among them a variety I had never seen before, a sample of which I herewith send you. It differs, you will perceive, from the common turnip in having eyes, or tubers, in all parts of it, as in the potatoe. Another peculiarity is, that it will keep for any length of time, without the least alteration or any appearance of decay. The specimen before you, it will be seen, is as sound and hard as it was the day it was unearthed in the fall; and besides, it appears as green as if just taken from a hot-house.

This turnip is hardy, and like the alpaca, will thrive on poor soil, as well as on that which is rich. As to its feeding qualities, my father informs me that it affords much more nourishment in proportion to its bulk than the ordinary turnip. As there is no particular name for this variety within my knowledge, and as it greatly resembles a pine-apple in shape and size, I would suggest that it be called by the name of the "Pine Turnip."

JAMES LANE.

New York, April 9th, 1847.

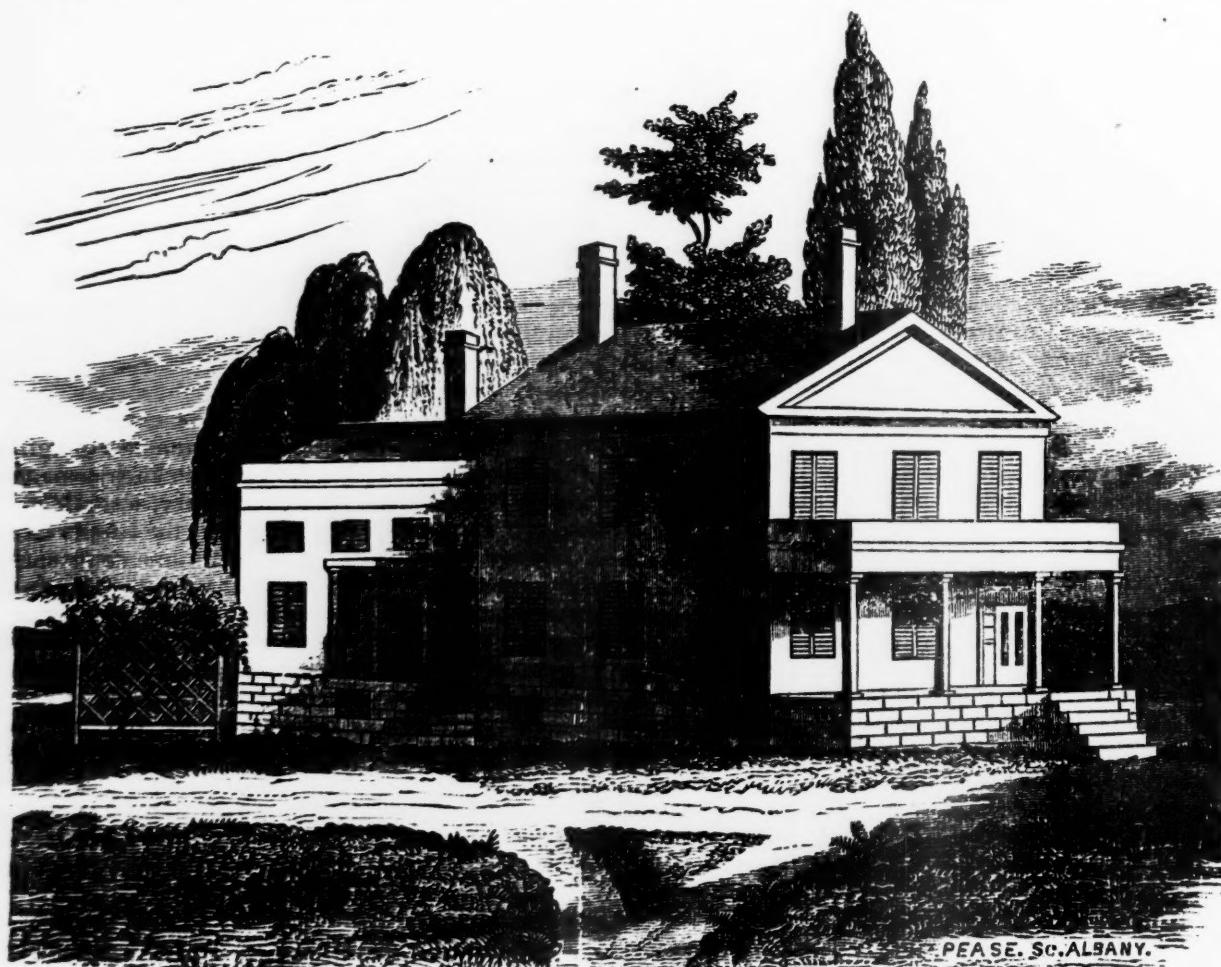
DESIGN FOR A FARM-HOUSE.

To design a farm-house in which beauty and utility shall combine is not a difficult task; but to design one that shall meet the wants, suit the taste, and come within the means of the *mass* of farmers, is quite another affair. There are many families who would consider a house complete if it afforded sufficient room for working and lodging, with the addition of a parlor. Others would think it very deficient if it did not contain, besides these, a library, dining-room, nursery, and bathing-room.

In the first place, the size of the family, and the

kind and quantity of labor to be performed, should be taken into consideration. If there are a number of small children, it is very important that there should be a nursery upon the first floor, connected with a bathing-room, and as near the dining room and kitchen as possible, that the mother may be spared all *unnecessary* steps in attending to her duties in these several departments. A small library is another desideratum; and a bathing-room should be considered indispensable.

If but a small dairy is kept, time and labor may be saved by having suitable rooms for milk



PEASE. Sc. ALBANY.

PERSPECTIVE VIEW OF A FARM-HOUSE.—FIG. 37

and cheese, as it is very unpleasant passing to and from a dairy-house in bad weather. The soil and situation must determine the place for a milk-room; few cellars are sufficiently dry and airy for that purpose.

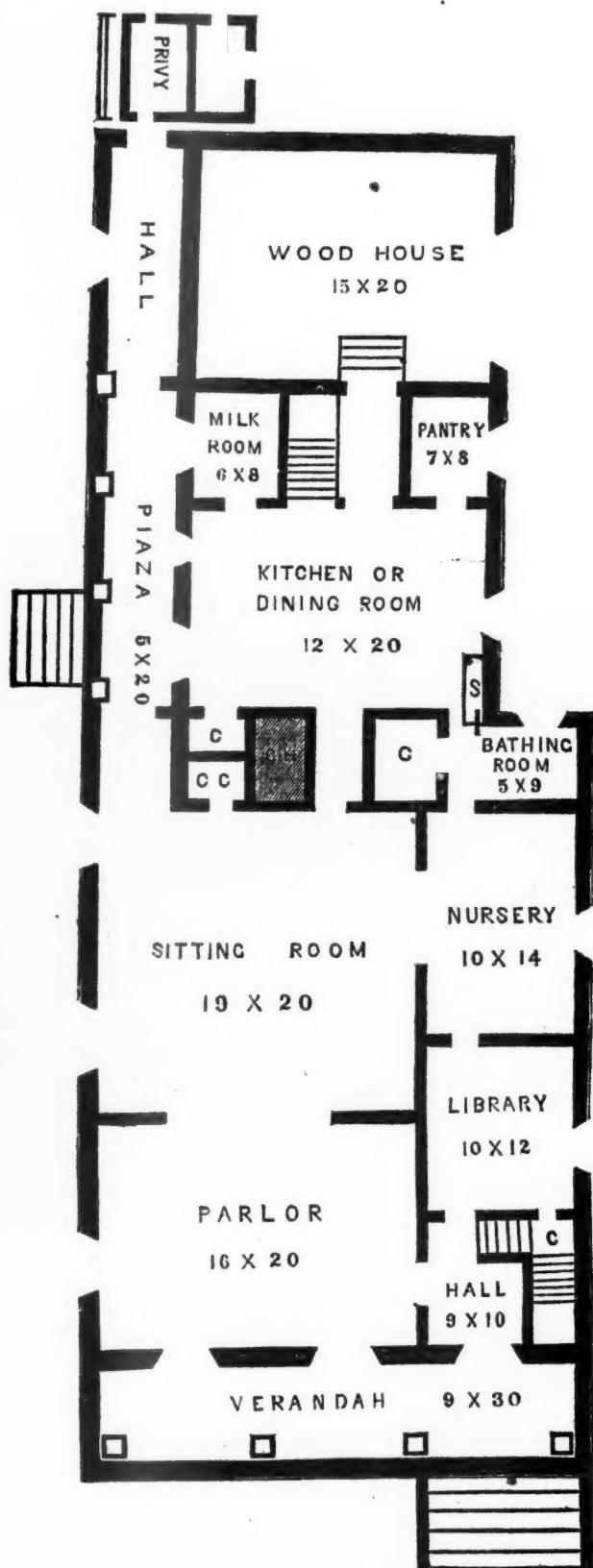
In this design I think I have secured all these conveniences without covering too much ground; and the rooms are so arranged that they may be used to suit the tastes or meet the wants of the occupants, without abridging their convenience. If a spacious parlor is wanted, it can be had by throwing the two large rooms into one. The library and hall could be thrown together in the same way, whenever the former is not needed for more private purposes. I would also have folding doors for the nursery, for convenience in case of sickness, or to be thrown open in warm weather. The library (if one is not desired) would make a very com-

dious bed-room for children, as it communicates with the nursery.

As my main object has been to save labor, by securing convenience, the underground kitchen is intended *only* for washing and doing other heavy and dirty work of the farm. It could, however, be used as a common kitchen, if the room in the wing should be desired exclusively for a dining-room.

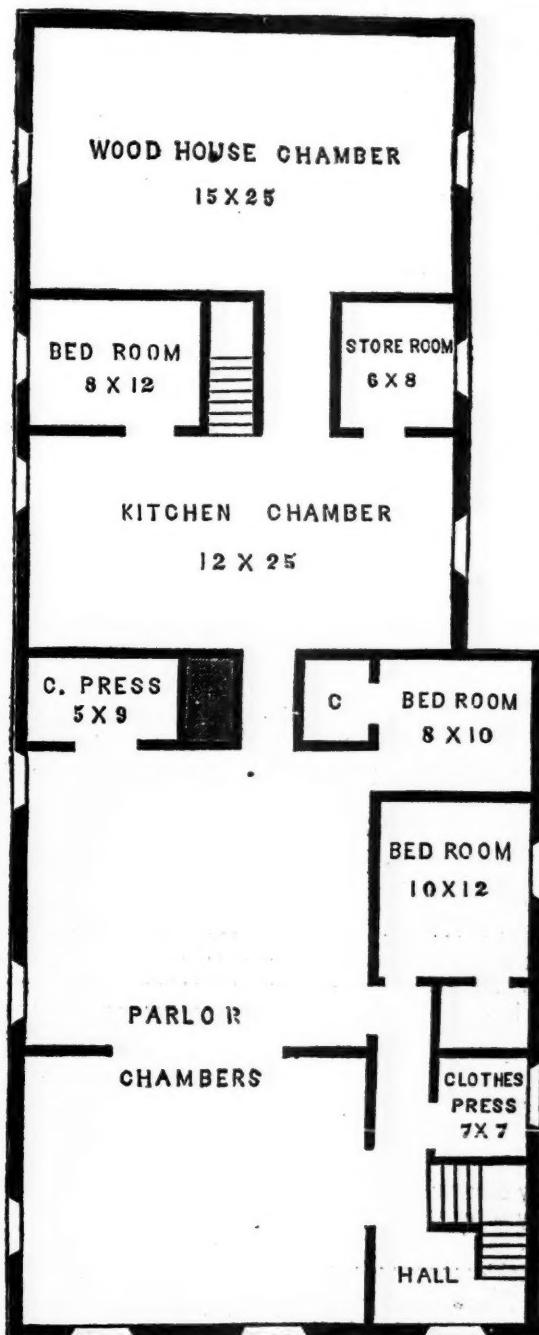
The house is designed for the use of a hot air furnace, consequently there is but one *real* chimney; two would be sufficient for those who do not like this method of warming their houses, by placing stoves in the library and nursery.

The dimensions of the house are 30 feet by 40 for the main building, and 25 by 35 for the wing, which I think will afford all the room necessary for comfort and convenience in a farm-house; and if some attention is paid to scenery and location,



GROUND PLAN.—FIG. 38.

may be made sufficiently elegant to satisfy any one who is obliged to consult his interest as well as fancy. Some might object to it as being *too large*. For those the dimensions could be reduced to 24 by 34 for the main part, and 20 by 25 for the wing, without altering its construction. But it must be remembered, that the *farmer* does not purchase his



SECOND STORY.—FIG. 39.

ground by the foot, and that he needs a great deal of store room, which he will find much cheaper, as well as more convenient to have under one roof; and unless it is provided in the first place, unsightly additions will be made, or little store-houses erected to mar and deface the beauty of the grounds.

I have allowed 10 feet parts for lower rooms, and 8 for those above, which will make light airy chambers. I know modern taste is generally in favor of the low cottage, and their outward appearance is certainly very picturesque and agreeable; but unless they are sufficiently spacious to contain all lodging rooms on the ground floor, I should protest against them; and I think all advocates in their favor would have abandoned their predilection, had they taken lodgings in one of their *little pretty snug* chambers, during the months of last July and August.

The cistern, it will be seen, is directly beneath the bathing room, and the arch so near, that a little trouble will at all times secure both cold and warm water for bathing.

An aperture of 6 by 18 inches should be made through the floor of the milk-room, into the pantry in the cellar, which will keep the milk-room cool, and ventilate both rooms; it should have a trap-door to be closed when necessary.

A drain is constructed in a corner of the cellar kitchen, into which all dirty water and suds should be thrown to cleanse the back drain, and be saved

in the manure-yard. To ensure cleanliness in the drains, the back grounds should incline from the house. I have not made an estimate as to the expense; that would depend very much upon the materials used and the mode of finishing. The scenery and location should determine on which side of the house the hall should be, also the piazza in the wing.

MRS. JAMES M. ELLIS.

Onondaga Hill, Nov., 1846.

The above is a Prize Essay, copied from the Transactions of the New York State Agricultural Society for 1846.

COMPARATIVE WEIGHT OF PORK AND BACON.

Valuable Tables.—In your February number I promised to give your readers some more "practical facts about bacon," to show the profit or loss upon cutting, salting, and smoking pork, according to directions in that article. I now fulfil my promise. On the 16th of Dec., 1846, I bought twelve

hogs, weighing 272, 245, 240, 237, 230, 229, 223, 212, 212, 206, 198, 189, making a total of 2,693 lbs. at \$1.87 $\frac{1}{2}$ per cwt., making \$50.50.

According to the market price in Chicago this was the fair value, merely deducting price of hauling. These cut up next day made

24 handsomely trim'd hams,	weighing	632 lbs., to cost say 2 $\frac{1}{2}$ cts.,	\$14.22
24 do. shoulders,	do.	580 do. do. 2 do.	11.60
24 do. sides, clear of bone,	do.	668. do. do. 2 $\frac{1}{2}$ do.	16.65
Leaf, lard, and trimmings of belly, &c.,	do.	330 do. do. 3 do.	9.90

Trimmings of lean meat, clear of bone, for sausage, 51, it will make \$52.37

Or \$1.87 more than the whole hogs cost, or at 2 $\frac{1}{2}$ cents a pound, it will exceed the cost 37 cents.

Then I had the remainder as follows:

12 joles	106
Back bones and ribs.....	158
Pates and souse.....	125
Loss in cutting up.....	43
	2693

I take no account now of anything but the hams, shoulders, and sides. For cutting and curing I have charged my own time.

1 day cutting up and salting (including board) ..	\$1.25
1 day hired man assisting.....	62
2 lbs. saltpetre, 37; 96 lbs. N. Y. salt (1 $\frac{1}{2}$ bushels)	
96 cts.	1.33
Dec. 30, work overhauling and resalting, 25 cts.;	
32 lbs. salt, 32 cts.	57
Jan. 16, 1847, preparing and hanging up meat to smoke	1.25
April 2, labor of weighing bacon.....	25
	\$5.27

After smoking and drying from January 16 to April 2, it weighed as follows:

24 hams.....	571, loss 61, original weight.
24 shoulders.....	534, do. 46, 580 do.
24 sides.....	636, do. 32, 668 do.

1741 139 1880

This, at three cents a pound, will exceed the cost of the hogs, \$1.73.

Any person can, however, fix his own price upon each part, and by taking comparative weights make his own calculation and estimate of profit and loss. The weights were all carefully taken by my own hands, with the same steelyards. The hogs were well fatted upon corn. The price of pork last

fall was low. The fair price of the bacon now, I think, is seven cents on an average.

But as "one swallow don't make a summer," I will give another table, so that a comparison can be made with these and the former one [See Sept. No. for 1846]. Jan. 13, 1847, I killed seven hogs, weighing 331, 235, 233, 222, 173, 167, 150 (the three last pigs), and at same time received from a tenant the half of two others, that were poorly fatted, which weighed 237 and 186, making my half 212, and the total 1723 lbs., which at the same price as the other lot, \$1.87 $\frac{1}{2}$ per cwt., would make \$32.30. These cut up the next day were as follows:

16 hams.....	413
16 shoulders.....	334
16 sides.....	400
Leaf, lard and trimmings.....	262
Sausage meat and tail pieces.....	63
	1472
Joles.....	78
Back bones and ribs.....	80
Pates and souse.....	80
Loss in cutting.....	13
	1723

The per centage of loss in cutting up this lot is less than the other. This is partly owing to being better dressed.

Weight smoked.....	370, loss 43,.....	413
do. do.	314, do. 20,.....	334
do. do.	368, do. 32,.....	400

1052 95 1147

This at three cents falls a little short of the price

fixed as cost, while the other lot at same rate exceeded it. This is owing to the small hogs in this lot. The charges against this lot are for

75 lbs. of salt.....	75
4 do. saltpetre.....	14
Cutting up and salting.....	1.00
Overhauling and weighing.....	36
	\$2.25

No matter what the price of fresh pork is, if the farmer is sure that he could sell the bacon for double that price, he will find it profitable to salt instead of selling in the hog. For the lard, sausage-meat, joles, ribs, &c., will more than pay the cost and trouble of curing, and then he will save about 40 per cent., in the weight of hauling to market.

I should like to see similar calculations upon putting up pork in barrels. *SOLON ROBINSON.*

Crown Point, Lake Co., Ia., April 25th, 1847.

NEW YORK FARMERS' CLUB.

THE meetings of this club have been kept up as usual, and its previous character fully sustained. As most of the subjects recently discussed, have been treated of at length in our back volumes, it is deemed unnecessary to repeat what has been said.

Millet for Soiling Cows.—Inquiry was made by Gouverneur Morris, after the best kind of millet for soiling, the mode of culture, and where and at what price the seed can be had. As no satisfactory answer was given by any one present, we offer the following, which has been obtained from a reliable source:

The kind best adapted for soiling purposes, is the common millet (*Panicum miliaceum*), which usually grows like a reed to a height of three or four feet, and bears a loose panicle of seeds hanging on one side. It will flourish on any soil adapted to the growth of Indian corn, but will produce the heaviest crop in a deep, rich loam, refreshed, if necessary, with abundance of street or barn-yard manure. The ground may be prepared as for ordinary crops, and the seed may be sown broad-cast, at the rate of half a bushel to an acre, or it may be planted in drills twelve or fifteen inches apart. Like Indian corn, when cultivated for soiling, it must be sown at successive periods, commencing in the spring as early as the season will permit. When grown for seed, it should be planted in May, and cultivated like corn. The product will vary according to the soil and the mode of culture, say from two to four tons of hay. We have the seed for sale in our warehouse, at \$1.50 per bushel.

AMERICAN AGRICULTURAL ASSOCIATION.

Introduction of the Alpaca.—This long talked of project, it seems, is likely soon to be carried into effect. By a statement lately made before the Association by the Chairman of the Committee, the services of Mr. J. D. Williamson have been secured, who is to proceed forthwith to the coast of Peru in one of the U. S. ships, where another government vessel will lie in wait to receive the animals and convey them directly to the United States without charge. Although the funds raised by the Association for this object are not large, in consequence of the aid so liberally tendered by Government,

they are deemed sufficient to make a fair trial of the experiment, and should it prove successful, it is a business which will ultimately take care of itself.

Mr. Williamson, we understand, has also received instructions from Washington to collect such seeds, plants, or other agricultural products, as can conveniently be obtained, and ship them either in public or private vessels at government expense, subsequently to be distributed gratuitously to different agricultural societies, as well as to individuals, in this county.

PREPARATION FOR THE HAY AND GRAIN HARVEST.

DURING this month and the next, will be the height of hay-making, and the reaping of grain, the most pleasing, yet the most laborious of agricultural occupations. Arduous and toilsome as these operations are, they may be greatly facilitated by the use of suitable implements, which may cost a little more than poor ones in the outset, but will prove cheaper in the end.

The first requisite, in hay-making, is a large or moderate-sized grindstone, of a sharp grit, mounted in a manner that the mower can turn it himself, and grind at the same time. Next, a good scythe, which must be well hung, with a sharp-gritted whetstone, and a well-prepared rifle, made after the old-fashioned mode, of wood, covered with a layer of grease and fine sharp sand. Then the small fork for spreading and turning the hay; one or more spare rakes, in case of accident; a large fork for pitching; hay-ladders and bolsters, for fitting on the waggon or cart; a pair of spruce hay-poles for conveying the hay to the barn or stack, in cases of emergency; and those possessing large hay-farms, will find it economical to purchase a horse-rake, and a sufficient number of mats or tarpaulins for guarding the cocks of hay in the field from showers and heavy dews.

In our agricultural labors, perhaps there is no branch more frequently slighted, and more slovenly done, than that of stacking hay and grain. The stacks are usually placed flat on the ground, often in situations where the water will not drain off, with the whole structure, rough, mis-shapen, and totally unprotected from vermin, and the rain. In England, this business is done differently, the stacks being made with the view of saving all the grain, and keeping the hay secure from the rain. They are generally placed on frames, elevated about two feet above the earth, and then built with the most exact symmetry, to the height of twenty or thirty feet, and covered with thatch. See page 335, of our first vol., for a cut illustrating the English method of stacking hay and grain.

Those who have large fields of grain to cut, if it is not much lodged, will find it advantageous to employ the cradle-scythe instead of the sickle. One accustomed to its use, will do the work more rapidly and well. In fact, the scythe is an instrument which should be more generally adopted in harvest, as long experience has fully proved.

GREEN PEA-SOUP.—Dried peas, either for soup or for eating whole, soaked until they begin to vegetate, say about two days, will taste nearly as well as when green.

REVIEW OF JANUARY NO. OF THE AGRICULTURIST.

Water for Stock.—If cold water is injurious to stock, it would be far better to provide wells wherever practicable with good pumps, which is by far more economical than cutting as in "shallow pools," as I myself witnessed in the loss of four sheep the present winter, "drowned in the water-hole"—very injurious to them surely. The great injury, however, resulting to stock from drinking cold water, is, from the fact of it being only given at long intervals, which causes them to drink too much. The propriety of giving much salt in winter is a mooted point. Many good farmers believe their stock winter better without, and have less occasion for drink. I am constrained to say, that I believe I have seen sheep do quite as well in summer and winter without water as with. And yet I cannot bring myself into the practice of not providing them with it.

Pumpkins and Apples for Swine may be very good, but I honestly believe that Indian corn is better. Although stock hogs may live and grow on apples or pumpkins, will they grow fat, and if they did what would the pork be good for? [Very good indeed fresh, but not sufficiently firm for choice packing.] I advise farmers not to trust too much to such feed: I should prefer feeding the pumpkins to neat cattle, and steaming the apples and mixing with meal for the hogs.

Another Cheap Pudding.—Take two quarts coarse corn meal (the white Southern corn is best), a pint of dried peaches chopped into pieces not bigger than large beans, a pound of chopped suet, eight or ten eggs beaten up in milk, and mix all into a stiff batter, and put in a bag, and boil three hours. Eat the same with any kind of sauce you like, and you will eat as good a pudding as ever was made at such a trifling cost. If any should be left, warm it up next day, and it will be good again.

To Remove Dust from the Eye.—The same kind of liquid here recommended is also the very best in the world to remove dust from the throat, notwithstanding a very different kind is often used to the great detriment of poor humanity; viz., brandy, gin, whiskey, and other "fire waters."

To Strengthen Cider or Vinegar by Freezing, will only leave the strong spirit, which will be found a poor way to make vinegar for family use. A better way will be to fill a basket, or a bag will do, with clean shavings, and suspend it in the mouth of a one-head cask, and then day after day pour the liquid for vinegar on the shavings, and let it slowly strain through. It will soon grow sour. Too much of the vinegar sold in our towns is muriatic acid, which is a very different article from acetic acid.

Dr. Stevens' New Theory in the Growth of Plants (if it is new to him it is not to me) contains some valuable hints that might prove of great advantage if rightly acted on. The capillary attraction of burnt bricks is so great, that in a very large portion of the United States, they are decidedly the poorest material of which a country house can be built. And yet they are often used in very damp locations, with the inside plastering laid directly upon the brick-walls, which creates a damp and unhealthy atmosphere in the apartments. And such walls are

not durable. This is not all; brick-walls are often built at an expense so much greater than wood, that the sum of the extra cost put at interest, would keep the wooden ones for ever in good repair.

Defective Stables.—There are other defects in stables besides open floors; and one of these defects is in having any floor at all. I am fully persuaded that all stables would be better without floors. Fill in and grade the earth so that the liquid would run back into a gutter, or be absorbed with litter. A composition of clay, lime, sand, and fine coal, is good to make an earthen floor. Another great defect in stables, though in town more than in country, is the want of good ventilation.

Color from St. John's Wort.—Glad to hear that this pest can be put to any good use—hope the demand will so far exceed the supply as to use up the whole stock on hand.

Steaming Apparatus.—If the tub was hung so it could be easily upset to empty, it would save labor. In many situations it would be a great convenience to fix the wheels to the tubs, so that they could be moved away to the feeding trough, and another tub rolled up to the steam-pipe. There would be no difficulty in fixing the pipe to fit each tub, and be easily detached.

Seidlitz Powders make a very wholesome drink in warm weather; and if people would buy the ingredients by the pound instead of paying the apothecary for doing them up in small papers and boxes, they would save a penny; and if they would use them freely in summer, they would save a pound instead of a penny, in doctors' bills.

Improvement of Worn-out Lands.—The article from the pen of friend Tomlinson, may be taken as a pattern for all your correspondents—short, straight-forward, to the point. And the information conveyed in this short article, of what vast importance would it be to thousands if they would go and do likewise. How many, like the former owner of this little farm, have skinned and scraped "as long as it would produce buck-wheat," and then given up, in despair of its renovation, for some *El Dorado* of the West. And yet how easily, according to Mr. Tomlinson's account, is this land restored to productiveness. But we want more information. Will Mr. T. give us the bill of particulars? 1st. What was the first cost of the land; 2d. the cost of draining; 3d. cost of manuring; 4th. credit for crops; and, lastly, what is the present value of the land? There are so many farms in this region that ought to be served just so, that any facts and figures that will tend to encourage their owners to go and do likewise, will be of vast public utility.

A Sketch of West Chester is a most truthful one, only it does not say one-half that the place deserves. Yes, my friend "E. S." Reviewer has been there and rambled over the hills of that lovely county, and partaken of the real hospitality of its inhabitants. I have seen that "water-ram," and made one of the most delightful visits of my life, with that most worthy family. For Dr. Darlington, I have great respect, for he is a man that goeth about doing good. As "E. S." appears well qualified for the duty, I hope a further and much more full "Sketch of West Chester" will be forthwith given. Such articles are useful, and always read with interest.

Management of Honey-bees, No. 6.—The theory of Mr. Miner upon two points appears to me different from the generally received opinion of modern bee-managers. That is, he gives free access to the moth, and depends upon the strength of the swarm to keep the moth out. Now I have no doubt but this may prove true in most cases. Yet during the last summer I had a very strong swarm in one of "Weeks' patent hives," that are of the same capacity, recommended by Mr. Miner, which were attacked and nearly destroyed by the moth. I have also known a good many bees perish by what people called freezing to death; yet I doubt not if they could be kept cold all the time, they would winter well. It is the freezing and thawing that kills them. Perhaps the plan of Mr. Miner, giving the hives full exposure to the weather, is the best. I should like to hear from others upon the same subject. In the meantime I hope these articles of Mr. Miner's will be carefully read by all who keep or desire to keep bees, and that he will continue to write

Letters from the South, by Richard L. Allen, I venture to say will always be read with pleasure by every one of the thousands who read this paper. And as "the boys" always read what is written by this old friend of theirs, I wish him to be particularly careful in the grammatical construction of his sentences, and not in his haste make it appear to them that wild turkeys belong to the varieties of ducks and geese. His description of Col. Hampton's poultry-yard reminds me to say, that I am fully persuaded that out of every ten persons throughout the United States, who keep poultry, every nine of them would find it most decidedly to their advantage to keep their poultry in an enclosure. The produce would always leave a profit over the cost of keeping; besides it is much cheaper to fence the hens *into* a yard, than it is to fence them *out* of the garden and other places where they never should go. I have the same fault to find with this letter that I had with the first one. It is not minute enough. I want to look into every nook and corner of this great Southern plantation. I think I could venture to believe whatever Richard L. might say of the actual condition of the laborers upon this place, and how it would compare in point of comfort, contentment, and happiness, with the laboring class of people in other parts of the Union. But I shall go and see for myself some day I hope. Do you give the average crop of cotton high enough? It is considered below what I have understood it to be. In Mississippi, land that does not produce a bale to the acre is not first-rate. As for cotton seed being "useful for feeding cattle," I have only to say, that it is much more useful for manure. Cotton seed has a very oily kernel within a thick, hard, dry covering, that has about as much nutriment in it as there is in the scales of a hickory tree; and although it may be softened by boiling, it never can be "improved" into valuable food.

To boil Meat Tender.—Instead of ashes, use pearl-ash or saleratus, as much neater and less trouble. I wish, Mr. Editor, that you would give a recipe for every family to have a piece of meat to boil. [Well, here it is. Be industrious, economical, and virtuous, and no family in the United States will ever be in want.]

Hall's Brick Making Machine.—There is nothing

muddy about this plate. It is clearly and most plainly delineated, and the account of the performance most satisfactory. It is strange that so great a labor-saving machine, of so small a cost, should not be in more extensive use. I have never seen this machine, but I have seen a great many brick machines, and a great many failures.

A Pennsylvania Barn.—I am delighted with this picture, not the barn. But because, by turning to page 120, Vol. 5, I can contrast it with a "Massachusetts barn." Further comment is unnecessary, as I have said my say about that. The very looks of the two, my wife says, would decide any Yankee body in favor of old Massachusetts. Every one for their taste though. I hope you will continue these illustrations. It is thus that we can learn which is best. For myself, I never could build a stone or brick barn. Wood is cheaper and better in all parts of the United States.

Grinding Corn.—"No kind of grain is actually spoiled by grinding too fine, except Indian corn," I believe is one of the sayings of Solon. If all his sayings are as true as this, he is a pattern of truth. It should be printed upon every sack of corn sent to England. "DON'T GRIND FINE." But what is a "kibbling mill," or rather, what does it cost? And does it go by hand? [Same as Corn-mills advertised page 136, May number.]

Experiments with Manures on Corn.—This table of Mr. Young is worth a dozen pages of theory. I am pleased to see that domestic manures, in this case, take the lead. Ashes it will be seen stand second in value; but it must be remembered that this might not be the case upon a clayey soil. Yet they never should be wasted as they often are upon many farms, or sold for "a pound of soap a bushel," when in fact, after being leached, they are worth the double of that.

More Facts about Paulonia Imperialis might all have been contained in two lines, by simply saying, "we have 4,000 trees to sell," and take this way to advertise them. This kind of smuggled advertisements is entirely too common. They occupy space that subscribers pay for, and often are uninteresting to the general reader.

The Cure for Indigestion Prescribed by Dr. Physic, is a good one for this fatal epidemic; but I can prescribe a preventive, which is far better. Here it is. I will warrant it sure or no pay. From very infancy, "throw physic to the dogs." Drink no spirit, or wine, no tea nor coffee—particularly the latter—eat but very sparingly of any kind of spices—use no pepper except that which you can raise in your own garden—eat coarse bread and boiled meat, and well-cooked vegetables, and as much ripe fruit as you like, but never bolt your food like a hungry hog or shark, and you never will have the dyspepsia, be your employment what it may.

Cultivation of Fruit-trees.—A word to add to note (a.) In all cases where trees are to be procured from a long distance, or place inconvenient to obtain them from at the exact right time in the spring, they should be procured in the fall, and the roots carefully covered up in garden mould, where they will keep until spring, better than exposed to the storms, wind, and frost, in the ground, where they are finally to stand. Another word to note (c.) I doubt not, but a better and easier method of coun-

teracting the effect of the drouth upon newly-transplanted trees, instead of watering them, is to lay a good, thick coating of straw, leaves, or other trash around the tree for a number of feet, which will prevent the earth from drying up. Note (*h.*) is another appeal from truth and good sense to the farmers to *save your ashes*; and perhaps no better use can be made of them than applying them to fruit-trees. Ashes are also an excellent thing around newly-set trees to assist in keeping the earth moist. I would suggest to "An Amateur," never to stop asking questions, while, by so doing, he can elicit such valuable answers, which will not only serve his own purpose, but those of thousands of other amateurs in the cultivation of fruit-trees. In regard to peach-trees, I hope he will ask the question, and after getting the answer from friend Allen, "try again," and perhaps he will be able to sell peaches instead of buying. [See an article on Peach-Trees in May No., by a valued correspondent.] While on this subject, I will suggest to all amateurs, that asking questions in a plain, short form like these, upon any subject, enables the editor by himself or his correspondents, to give the information in the shortest and plainest form. I have no doubt but every sensible question is answered with pleasure by the editor, and it may often form the bud that will blossom into full-blown ideas.

Alderney Cows.—I, too, am of opinion that this breed of cattle have been very much overlooked, or rather looked over, by their great tall sisters of the Durham breed. I have no doubt but a good lot of pure Alderney cows would prove the most profitable dairy in the United States, for good, rich butter will always sell for a rich price. The Jersey practice of standing the milk "ten inches deep," is not one that I can advise to be followed in this country. Neither is it requisite for milk to stand "three days" to bring up all the cream. I have no objection to letting it stand until congealed, provided the butter is thoroughly washed in cold water till all the sour milk is dissolved and washed out; for if one particle is left in it, it will injure the butter.

Ladies' Department.—Here is another of those extremely interesting extracts from "*The Old Lady's Diary*," in which she says that "whilst travelling last summer, her attention was frequently called to the subject of bed-bugs." Alas, and alack! what traveller does not have his attention called to these pests full often. It is truly disgusting only to think of the names of these filthy creatures, that some inn-keepers find harbors for. Our present fashion of making bedsteads seems to be particularly designed for bug-breeders. It is strange to me that iron is not more used for bedsteads. They could be made as cheap as wood; very durable and neat; and so constructed that there would not be a crack or hole big enough to make a bed-bug's nest in. I suggest to the American Institute, to offer a special premium for the best iron bedstead. There is great lack of substantiality in all our furniture of these modern times.

Sundry Items.—I cannot pass by an article of your correspondent, "E. S." without stopping to bestow a word of commendation. Whatever is written by this excellent correspondent is sure to contain something interesting and useful. Now this one item about thawing meat is worth a year's

cost of the Agriculturist, to every family that lives in the freezing part of the United States.

Boys' Department.—Don't overlook the article under this head in the January number. It is a very interesting one. The cut delineating the crystals of snow is a most beautiful one, and worthy of the attention of old men as well as boys. Look at it again.

Hops, you say, have been exported to England; but it seems by your price-current, that it has not raised the price high enough to enable the American cultivator to live by it. In fact it does not appear to me that we can compete successfully with the very cheap labor that is bestowed upon this crop in England.

The Editor's Table, this month, contains quite a variety of good dishes, among which it is gratifying to see what a continued increase there is in books upon agricultural subjects. The "Memoir on Maize," I have not yet seen, but hope it is worthy of the praise bestowed upon it. I look upon the Indian corn crop as the most valuable of any crop on the face of the earth. Every part of the plant is valuable food for man or beast. The grain affords the greatest amount of food for the labor bestowed of any edible thing that is cultivated in the northern portion of America. In many parts of the United States it can be grown for 12 cents per bushel, and pay the cultivator better than any other crop. A well-written book upon this subject must be a valuable and very acceptable one to millions of the inhabitants of corn-growing America.

REVIEWER.

SOIL OF THE RED SAND-STONE FORMATION.

As you doubtless have many readers who look forward to a future day, when they intend to purchase land for cultivation, and others who are at this moment in quest of farms, a description of the soil of the "Old and New Red Sand-Stone Formations," may prove not altogether uninteresting. In making this attempt, I pretend to no scientific accuracy, but simply such observations as some practical acquaintance and general reading has furnished.

This soil, under consideration, is formed from the decomposition of the above mentioned rocks, on which it rests, and which, for all practical purposes, may be regarded as the same, although known among geologists under distinct names, referring to their position.

The soil, for the most part, entirely free from stones, is made of different proportions of clay and sand, varying in different localities; in some places forming a heavy, in others a light loam, with intermediate varieties, but seldom running into the extremes of a thick stubborn clay, on the one hand, or of a loose sand on the other.

The rocks, on which this soil rests, are stratified, and most minutely so near the surface, breaking up into thin flakes and lying for the most part at a dip [The dip or sloping direction of a stratum, or layer of rocks, in geology, is its greatest inclination to the horizon, or that on a line perpendicular to its direction or course; called also the *pitch*] of from 10 to 20 degrees, thus presenting a ready passage for all surplus waters, completely obviating the ne-

cessity for drains; yet by their position, prevent the leaching of the soil or a too rapid descent of the waters, which carries with it the fertilizing ingredients of the land, and in the case of sandy and gravelly subsoils is found to be a cause of much waste, ever requiring renewed supplies of manure.

The depth of this soil varies; but even where it is thin it may readily be increased by tearing up the rock with the plow. This may be done boldly, without fear of the ill consequences, which, in some cases, attends bringing the subsoil rapidly to the surface. The rock, or subsoil, is composed of the same inorganic substances as the soil itself, and is free, except in some locations of limited extent, from all noxious ingredients to vegetation; and on being exposed to the sun, air, and frost, it rapidly decomposes, and in the course of a single season becomes, for the most part, finely divided into minute particles, forming loam. Indeed, so true is this, that cases are not unfrequent, where the rock brought to the surface from a considerable depth, as in digging wells, after decomposition, has been applied, with decided advantage, as a top dressing. This is especially manifest in soils overlaying this formation, but of different characteristics. In Dumfries-shire, Scotland, it is quarried and carried out for this purpose expressly.

The land of this formation generally lies either in gently rolling fields, or somewhat elevated table lands, and from this cause and the natural drainage before alluded to, freeing them entirely from stagnant water, they are always distinguished for their salubrity. They are well adapted to the cultivation of the crops generally grown in this climate; potatoes, rye, oats, and corn, doing well, and where the soil verges to clay, wheat also. But their principal excellence is in grass, on account of which, they may be styled *grass-lands* emphatically. Where the land is in tolerable condition, white clover and blue grass spring up luxuriantly, the latter forming, in a few years, a dense heavy sod. Red clover does admirably, mowing a good swath, through the second year after sowing, when not crowded out by other grasses. Good meadows of Timothy giving from one and a half to two tons per acre, are the usual results from the land in good cultivation, and in some cases three tons are obtained, mowing for a number of years successively, or forming permanent pasture of the sweetest quality.

Manures of all kinds tell effectively on this soil. It may be said in the language common among farmers it "hearkens quickly to them," and, owing perhaps, in no small degree, to the peculiar nature of the subsoil before alluded to, their effects are very lasting. But it is by the use of lime, that the most beneficial, and at the same time, the most economical results are produced. Here, it is rarely, if ever, known to fail in causing, on its first application, the most marked improvement, which every successive dressing seems to renew. Fields, which from sterility have remained uncultivated, or have yielded but scanty crops of buckwheat, by a single dressing of lime, have given at once, good returns, especially of grass; and under good management with no other help than lime and the manure of the farm, in a few years, have really become productive.

RUFUS.

We shall be very happy to receive further communications from our correspondent "Rufus" on the same subject, for he treats it in so plain and practical a manner, that the most ordinary mind can easily comprehend it. The great objection to scientific articles in a journal like this, conducted almost solely for the benefit of the practical farmer, is, that they abound in terms which the unscientific do not comprehend, and for that reason they are of little or no benefit to them. We wish those who write for the popular mind would always remember this, for in that case they would do great good by their essays—now they are as a sealed book to the great mass of our readers. We ought to be addressed in the same plain, familiar manner, that one would adopt in speaking to a child, as we are but children of a larger growth.

THE CAPON.

MINDA, a colored female, was a native of South Carolina, and some thirty-five or forty years ago came to this state with the family of my father-in-law, Major John Nesmith, to whom she belonged. She died some four years since on the plantation of one of Major N.'s heirs, having lived many years within fifteen miles of this place. She made, in the course of her life, many capons for Major N., his children, and, since his decease, for his widow, who is yet living and resides at this place. Minda operated with eminent success, seldom or never losing a fowl operated upon. She used no instrument save the sharpest pocket-knife she could conveniently borrow. Having made the incision, she removed the testicles with her fingers. After completing the operation, it was her custom, before releasing her patient, to push one of the testicles down his throat. This she considered very essential to the success of the operation; though I presume she made few converts to this superstition.

Some of Minda's capons were employed every season to nurse and rear young chickens. They took chicks of very diverse ages and sizes, all at the same time, carefully feeding and vigorously defending by day, and affectionately covering by night all that sought their benevolence. They soon learned to cluck and call the young brood like a hen, leading them about in quest of food, and otherwise faithfully discharging the offices of the most devoted mother. One of these capons excited much astonishment and admiration among the numerous persons accustomed to visit the place. He reared one season a brood of *forty-three chickens*. It was highly amusing at the close of day to see them, when as large as partridges, striving for a place under the wings of their protector, who in vain "spread himself" to the utmost, extending wings and tail to cover his protegées. Many of them were compelled to be content with sitting around him in a circle.

The advantages of employing capons to nurse are as follows:—First, they are equally industrious and at the same time more vigorous than the hen; second, they can protect, feed, and rear a larger brood than the hen; third, they are less pugnacious and destructive to other broods than the hen; and, fourth, while they have the care of the young, the hen has leisure to regain her flesh and give her

undivided attention to the production of eggs and hatching another brood.

The capon is taught to nurse by rubbing his breast roughly with a corn-cob, or whipping his legs with small twigs, or better still, by rubbing nettles on his breast, at the same time confining him in a box so low that he cannot stand erect, and placing the chicks under him. This was Minda's course of treatment. Perhaps the best course, however, is that practised in France, where the custom is to confine the obstinate capon a few days in a solitary dark place; then to put the chicks with him, when he is much rejoiced to have their company, and ever after remains their faithful guardian.

Some capons, however, can never be made to take chicks, perhaps on account of the castration having been imperfectly performed, which often occurs when the subject operated upon is too young—the parts then being very soft.

The greatest advantage of *caponizing* is found in the vast improvement made in the size of the fowl, the excellency and superior flavor of the flesh. If desirable, I will communicate a simple method of operating, without all the array of instruments provided by some operators. D. L. PHARES.

Whitesville, Miss., March, 1847.

Please to do so.—ED.

SOILING CATTLE.

As the subject of soiling cattle has been discussed and much written about of late, permit me to contribute a few remarks on two summers' practice. I have a farm of 110 acres under cultivation, on which I keep five horses, two mules, and five cows. I prepared one and a half acres in a lot adjoining the barn and stables, sowing Timothy-seed in the fall and clover in the spring. The ground had been previously made rich for the cultivation of potatoes and other roots. The Timothy failed to come up well; but the clover and a native grass grew luxuriantly, so that from the early part of May until after harvest-time, I had an abundance of green fodder for my horses and cows. In fact I had more fodder than was necessary to consume in a green state, and consequently made a part of it into hay. In the spring, fearing there would not be grass enough upon my one and a half acres to support my animals, I planted, in drills, about a quarter of an acre of sweet corn of the large kind; but having no occasion to use it as fodder, I thinned it out just before it was in tassel, and raised therefrom about twenty bushels of shelled corn.

As to the expense of labor in soiling, I would remark that one of my men cut all the fodder necessary, before breakfast, who was followed by two others, one with a porter's cart, and the other with a wheelbarrow, and conveyed a part of it to a rack erected in the middle of my barn-yard for the accommodation of the cows, and the remainder to the stable for the horses. The animals had three full bites a day, morning, noon, and evening. Not more than fifteen or twenty minutes were occupied by the men at each meal, and this was not altogether lost time, as the men and horses had an hour to rest and feed at noon. I would remark, however, that as long as my winter's stock of carrots and sugar-beets lasted in the spring, I feed them once a day to my cows.

These remarks, I think, are only applicable to farmers in the vicinity of cities, or large towns, where a ready and accessible market offers for all kinds of vegetables and produce, and where land is too valuable to be used for the purposes of grazing.

Here I would merely add that, a few years since, the same piece of ground, occupied as above, was seeded with large clover, which grew so luxuriantly that it was thought that it could not be properly cured. It was cut green and sold in bunches, mostly to milk-men, at three or four cents each, amounting in the course of the season to about \$100. J.

PRODUCTION AND PREPARATION OF CORN FOR THE EUROPEAN MARKETS.

THE present season seems fully to have settled the question in favor of an immense exportation of Indian corn to European ports hereafter. Necessity and famine have overcome prejudices against its use there, which heretofore had been insurmountable. Appetite has given to it a relish and flavor, which otherwise it would have never been found to possess; and the recollection that it has saved millions from famine, will hereafter endear its use to the multitudes abroad wherever it can be had.

To provide for this permanent demand, is now the proper duty, as it will be the decided interest of the American farmer. Yet this should be done within reasonable bounds. It will not do for the sugar or cotton-planter; the hemp, the wheat, or the tobacco grower, to abandon his accustomed crops, and divert from their appropriate uses soils little suited to the growth of corn; nor for the grasier, the stock-breeder, or the shepherd, to neglect or turn from his legitimate pursuits, to the cultivation of this grain. If any absurd system like this be adopted, to any extent, corn will go down and the neglected crops will go up, till the scale is reversed.

Yet there is danger of this. Americans are too impulsive, too excitable, and it is too often a feast or a famine with them. If an article or pursuit seems likely to pay, every one rushes into it; if appearances are against it, they are for abandoning it in the mass. We run from agriculture to manufactures, from manufactures to trade, and from trade to speculation. At one moment we have a high tariff, at another scarcely any; sometimes we have no banks, and at others, every village may boast its own, and the excess soon reduces the country to utter destitution again. Our pendulum is ever on the swing, and dashes far beyond the centre of gravity on either side; and if our ship gets a little out of trim, we are all so eager to right it that we rush tumultuously to one side and careen her worse than ever.

A slight addition to the quantity of acres now devoted to the culture of corn, with more careful planting, manuring, and cultivation, and with greater economy in its feeding and use, will swell immensely the annual amount sent forward to the shipping ports. Added to this, new land is constantly brought into cultivation, and with high prices and an unstinted demand staring us in the face, what so likely to command attention as an article that pays so well and makes such immediate returns? The capital required for growing this crop is so near to nothing as to be inappreciable.

In some places, a hoe and a few bushels of seed only, are requisite to make a large crop; and in all others a few plows, and teams to draw them, are the principal items of expense. With a boundless extent of soil reaching from Maine to Mexico, suited to its growth, with the enterprise and well known skill of our productive classes, stimulated to the highest pitch by exorbitant demands, we may well apprehend that our future crops will rather be in excess than deficient in this article. Certain it is, that while every effort should be made for its largest production, where it is following out a present adopted system, yet in no case should a deviation from an ordinarily cultivated crop be made for the sake of this. The sugar-planter, whose cane has been cut off by frost or diminished by excessive rains; or the cotton-grower, whose plants have been thinned and rendered comparatively barren by caterpillars, rust and other causes, may be inclined to turn from his course and trust his luck with corn, which is generally a surer, and may be supposed to be a more profitable crop.*

It may be, and no doubt generally is, the most profitable course a planter can pursue, to divide his products to the extent of raising his own supplies for plantation use; but beyond this, it is not deemed profitable to go, by such as have lands well adapted to crops already profitably occupying their attention.

The effect of high prices in one prominent product, has almost invariably the tendency of raising others; as the increased price obtained for either, stimulates demand for all. Especially is it to be apprehended, that cotton may fall behindhand, from the many casualties and the low prices that have attended its culture for the last few years.

But my present object is more particularly to call the attention of the readers of the *Agriculturist*, at points remote from the seaboard, to the propriety of properly preparing their grain for shipment. We are now beginning to receive accounts of heavy losses from the heating of grain after shipment. This damage has, in many cases, exceeded one-half the entire value of the cargo; and although this loss, in the first instance, falls on the shippers, it is pretty sure, in the end, to reach back to the producer. This hazard has become so great, from the excessive tendency to heat in Indian corn, if retaining the slightest moisture when stowed in the vessel, that some of the heaviest dealers in New Orleans have determined to risk no future shipments, without the grain being first fully prepared for it, and this is effectually done by kiln-drying.

Several establishments have been recently erected for this purpose in this city, two of which at least have proved defective in accomplishing the objects satisfactorily. Another is about being put up, of sufficient capacity to kiln-dry five thousand bushels per day. Kilns have already gone into operation in several of the exporting places on the river above, and there is no doubt these will be rapidly multiplied, till sufficient capacity shall have been

* An intelligent planter of the Southwest says he prefers raising corn at 30 cents per bushel to cotton at 6 cts. per lb. This opinion is not generally entertained, and its correctness must depend entirely on the adaptation of the soil, season, freedom from accidents, &c., as to the peculiar advantages either may possess.

attained, to prepare effectually every bushel of grain destined to a distant market.

The best plan for this purpose, on an extensive scale, which I have seen in operation, is a new, and apparently valuable improvement for kiln-drying, the invention of George W. Woodington. He is about taking out a patent for it, for himself and Mr. George Gilbert, both of Cincinnati.

The first one ever erected, has just been put into operation. It consists of substantial brick mason-work, about twenty-four feet long, six wide, and eight high, arched with brick. The fire and grate occupy three feet of the centre, at the bottom. Immediately above the fire are iron plates, resting on the walls on either side, extending the whole length. At the other end, the flame and smoke are divided, and pass up through two iron pipes at each corner, and then on either side, and almost in contact with the cylinder, they return the smoke through the kiln, where they pass out.

The cylinder is of strong sheet, light boiler-iron, three feet in diameter, and occupies the entire length within the mason-work. On the inside of this, flanges are riveted lengthways and spirally, turning about 170° of the circle, in the whole length of the cylinder. It is placed one foot above the fire in an arch, which is kept at a temperature high enough effectually to dry the corn while passing through, which requires some ten minutes. The corn is fed into one end of the cylinder, by a spout leading from a hopper above, and it is discharged, from the other end, and through a short iron conductor. It is capable effectually of drying 800 bushels in twenty-four hours, which it accomplishes without burning or cracking any of the kernels. Not one is scorched or discolored, but all have the bright, clear appearance and original taste of the grain, while its germ or vitality is effectually destroyed, thus removing all tendency to change and injury.

I cannot but believe, that all corn destined for remote shipment hereafter, will be kiln-dried. There is a saving of 9 per cent in freight, in consequence of loss of bulk and weight in drying—a saving of insurance—there is no danger from weevil from any kiln-dried grain; and there is, lastly, the frequent saving of the whole grain, which would otherwise spoil by moisture. I have the above fixtures for sale at my warehouse, 75 Camp St., New Orleans.

New Orleans, April 29th, 1847. R. L. ALLEN.

DRAINING.—A correspondent from North Carolina informs us, that he has pretty effectually drained a large body of land with a fall of only fifteen feet to the mile, in the following manner:

When I first took possession of the farm I found no drains upon it, and the fences were a complete wreck. I first cut a ditch six feet wide and four feet deep, entirely round a tract of 300 acres; then a canal twelve feet wide and five feet deep through the centre of the farm to the creek. Then I laid out the tract into squares of two and a half acres each, by tributary drains communicating with the main canal. The land getting well dried, last fall I sowed 70 acres with wheat, and 30 acres in oats. This spring I planted 150 acres with Indian corn, 25 acres in potatoes and cotton. I have also laid out 25 acres for pasture, which I intend to sow all with clover next spring.

Mr. Norton's Letters.—No. 5.

I HAVE found here a series of researches upon the nature and causes of the potatoe disease, which is, in many respects, very complete and valuable. These researches are by Professor Harting, Professor of Microscopy in the University of Utrecht. His paper upon the subject is full of interest; but, although published in French, seems to have shared the common destiny of Dutch works in being little known out of the Netherlands.

Professor Harting's researches were, for the most part, microscopic, and for such he has every facility, his rooms being furnished with at least a dozen microscopes of the best quality. He has collected potatoes, diseased and healthy, from all parts of Europe, and even from America. Guided by these specimens, he has traced the progress of the disease from its very commencement, both in the leaves and stalk and in the tuber. All of his conclusions seem reasonable and not improbable.

The disease in the tuber always commences by the appearance of a brown matter in the cells which contain the starch. Each of these cells includes a little bag filled with grains of starch, and a liquid, having in solution albuminous substances, dextrine, and a little sugar; by the decomposition of these substances is produced the brown color which, in a more advanced stage of the disease, becomes black. On chemical examination, these colored substances have all the properties of *humus* and *ulmin*, two bodies which, under the form of humic and ulmic acids, occupy a prominent position in the organic part of the soil. As the disease advances, the walls of the cells are destroyed, and finally large cavities are formed where the potato is exposed to drying influences. At, or sometimes before, this stage of the malady, parasitic fungi begin to appear, generated within the cells. Of these plants, Professor Harting has figured and described no less than nine varieties.

It has been said that these are the cause of the malady; but the most powerful microscopes show nothing of them until an advanced stage of disease, and sometimes not even then; instances are not unfrequent when the whole tuber is destroyed without their appearance. Another very conclusive reason against the fungus theory, is the fact that infection is with difficulty, if at all, transmitted by these plants. When they were placed in contact with a freshly cut surface of a healthy tuber, and allowed so to remain for a month, in no instance was the same species reproduced in one case, or fungus appeared on the cut surface, but it was of another species. The brown and black matters, on the contrary, are infectious, when allowed to remain in contact with a healthy cut surface, but not when the skin of the healthy tuber is unbroken.

From the above facts, Professor Harting draws the conclusion that these parasitic fungi are not a cause but a consequence of the disease. The same thing is his opinion with regard to insects, and here he seems to be still more obviously right. Some persons in England, with singular pertinacity, yet insist upon this explanation; but a microscope of 500 linear magnifying power, shows neither eggs, larvae, nor insects, until an advanced period of the disease, and often they do not appear

at all; this is the case both in the leaves and tubers. If we ascribe the malady to either an insect or parasitic fungus, it will be very difficult to fix upon the real culprit, as sometimes one, sometimes another appears alone, sometimes three or four species together are observed in the same tuber.

It is easy to see from the above, that Professor Harting considers the commencement of the disease to be a chemical change. For the causes of this change he looks to the atmosphere; and in support of his views has collected a great number of thermometrical and barometrical observations, made during the year 1845, and several of the preceding years. These tables certainly show a singular state of the atmosphere during the summer of 1845. Ordinarily the pressure of watery vapors in the air diminishes towards midday; but then it increased, and the generality of vapor in the air was also unusually great. The temperature at the same time was elevated. This would hasten the movements of the sap from one cell to another, and increases the evaporation from the pores of the surface; but this evaporation, and, consequently, the general movement, would be checked by the unusual moisture and pressure of the atmosphere; at such an elevated temperature the decomposition of some of the albuminous matters would soon commence. In June, July, and August, when the temperature of the air is most elevated, the leaves and stalk were first attacked. Later in the season, when the ground was warmer than the air, the commencement was in the tubers.

Professor Harting only gives this as a probable explanation, and it has many strong points; but there are yet numerous questions occurring to me which it does not sufficiently explain. Why is it, for instance, that of two varieties, scattered through the same neighborhood, and in the same circumstances, one is scarcely at all, and the other almost invariably affected? Perhaps the solution to this and many other like objections may be found as we have further experience; in the meantime, Professor Harting has accomplished a valuable investigation in an unprejudiced spirit, and has added greatly to our knowledge of the phenomena of this disease, and gives at least much authentic negative information as to its causes. JOHN P. NORTON.

Utrecht, Netherlands, April 8th, 1847.

WOOL-GROWING IN SOUTH CAROLINA.—Through the kindness of a friend, we have received a Report of the Proceedings of the Union Agricultural Society, of South Carolina, by which we are rejoiced to learn that our Southern brethren are becoming more and more awake to their interests, and continue to direct their attention to those productions necessary for clothing and provisioning themselves and servants. Among other things particularly recommended in this report is the growing of wool and mutton. To those who are not familiar with the different breeds of sheep, we would recommend the South Downs as the most suitable for general purposes in that region. Their wool is quite good enough for all ordinary uses, and their mutton surpasses, perhaps, that of every other breed for summer slaughtering, being better marbled, less fat than the Bakewells, Leicestershires, or Cotswolds, and yet fat enough to give richness and fine flavor to the meat.

Boys' Department.

TREATMENT OF ANIMALS.—No 1.

AMONG the many useful hints published in the Boys' Department of the Agriculturist, I do not recollect to have seen one topic touched upon at all;—that is, the Treatment of Animals. Therefore, what follows, I propose as a preface to that subject.

The first requisition for a herdsman, a teamster, or a drover, is a well-subdued and well-regulated temper; for, without this, an animal is never safe in the hands of a boy, or anybody else who is lacking in this virtue. All boys may not be amiable by nature; and for such, it is necessary that they should be disciplined by a course of self-denial and self-restraint, until they have a perfect command over themselves. We may no longer look to fathers to do this, as so few of them possess perfect control over their own tempers, and where this is the case, but little good will ever grow out of their government over the tempers of their children. Hence, I say, boys, subdue and regulate your own tempers, and when this is done, I will tell you how to treat all kinds of domestic animals. S. A.

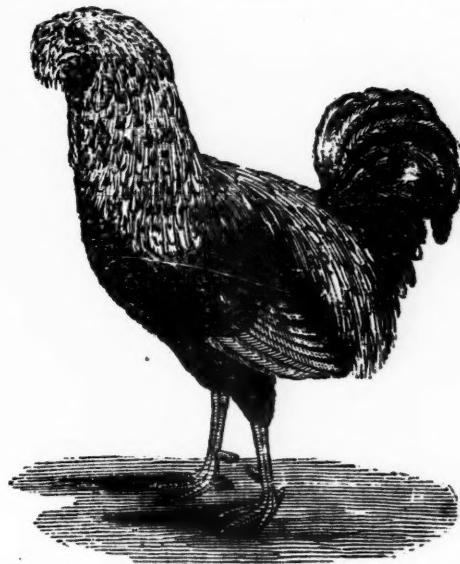
THE SPANGLED HAMBURGH.

IN describing this fowl I cannot avoid again remarking that most persons who have written upon the subject of poultry appear to have been mere compilers, and to have possessed but little, if any, practical acquaintance with the subject of which they undertook to treat; for example, in the case of the very bird now under consideration, I find, in "Dickson on Poultry," p. 15, the Hamburg fowl described as possessing a singularly large comb and wattles; and while the writer states it to be a variety of the *Paduan* or *Polish*, he adds—"the nourishment expended in that to form a crest of feathers goes to enlarge the comb and wattles." Now, it so happens that the Hamburg fowl have a large top-knot, with but very small comb and wattles; and another peculiarity that shall be described in its proper place. I do not follow blindly the descriptions furnished by my predecessors, however highly I may conceive their writings are, in many respects, to be esteemed. I am this moment writing my description of the Hamburg fowl from two beautiful specimens as they stand before me on the table in the house of their owner, my very kind friend Mr. Nolan, of Dublin. These fowl gained the prizes at the last show of the Royal Agricultural Improvement Society of Ireland, from a host of very worthy, but still far inferior competitors; consequently, in my case, no blunder can possibly occur.

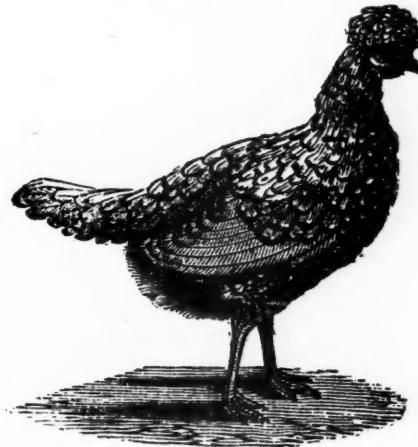
The Spangled Hamburg fowl are divided into two varieties, the distinctive characteristics being slight, and nearly altogether dependent upon color; these varieties are termed the GOLDEN and SILVER spangled. The former will suffice for me to describe, as the points of form, &c., excepting only color, are identical.

The *Golden Spangled Hamburg Fowl* is one of no ordinary beauty; it is well and very neatly made; has a good body, and no very great offal. On the crest, immediately above the beak, are two small fleshy horns, resembling, to some extent, an

abortive comb. In some specimens this crest is divided into more than two horns; but two are the ordinary and more legitimate number. Above the crest, and occupying the place of a comb, is a very large brown or yellow tuft, the feathers composing it darkening towards their extremities. Under the insertion of the lower mandible, or that portion of



THE SPANGLED HAMBURGH COCK.—FIG. 40.



THE SPANGLED HAMBURGH HEN.—FIG 41.

the neck corresponding to the chin in man, is a full, dark-colored tuft, somewhat resembling a beard. The wattles are very small. In the *golden* variety, the hackles on the neck are of a brilliant orange, or golden yellow; and the general ground-color of the body is of the same hue, but somewhat darker. The thighs are of a dark brown, or blackish shade, and the legs and feet are of a bluish grey.

In the *Silver Spangled* variety the only perceptible difference is, that the ground-color is a silvery white. The extremity, and a portion of the extreme margin of each feather, are black, presenting, when in a state of rest, the appearance of regular semicircular marks or *spangles*; and hence the name of "Spangled Hamburg," the varieties being termed *gold* or *silver*, according to the prevailing color being bright, yellow, or silvery white. These fowl have good plump bodies, a good skin, are good layers, and lay good-sized eggs.—RICHARDSON.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Britannia, we are in receipt of our foreign journals to 4th of May.

MARKETS.—*Asics* unchanged. Cotton has fallen $\frac{1}{4}$ d. per lb. *Flour and Indian Meal*, quite an advance.

Provisions remain about the same as per our last *Lard* a decline of 2s. to 4s. per cwt. *Rice* in great demand. *Turpentine* a slight fall. *Tallow* the same. *Tar* scarce and firm. *Tobacco* dull. *Wool* the same.

Money is scarce, the rates of discount high, varying from 6 to 8 per cent. on the best paper. Some was done as high as 10 per cent.

The weather was favorable, and crops of all kinds looked well.

Donations to Ireland and Scotland.—The amount of flour and grain which the Americans have sent to the starving Irish and Highlanders, has been the universal theme of eulogy in Ireland, and of warm and generous sympathy in Great Britain.

Emigration to the United States is unprecedented. Whole villages in several parts of Europe are likely to be depopulated by it.

Destruction of Insects by Hot Water.—Mr. Gordon, the Superintendent of the ornamental department of the garden of the London Horticultural Society, has ascertained that the scale insect, with all its young ones, eggs included, may be effectually destroyed and even dissolved by means of water heated to a temperature of 140° F., and this, too, without injury to the bark of the trees on which the insect feeds. It may be applied by a syringe or a sponge, to the parts of the tree where the scales reside.

Water, at a temperature of 140° , undoubtedly, would destroy the young, tender leaves of plants; therefore, it should be applied, if possible, before the trees put forth. It is not improbable that this method will be found applicable to most other insects which infest woody plants and trees. Boiling-hot water has been applied with success to the vine and peach-tree for killing insects, without any apparent injury therefrom.

Agricultural Statistics of Ireland.—The returns of the harvest of 1846 give 2,162 lbs. of wheat per acre as the result of last year's crop all over Ireland, except the county of Kildare, against 2,186 lbs., the average produce of past years; 2,155 lbs. of barley, as last year's crop against a former average of 2,298 lbs.; 1,726 lbs. against 2,130 lbs. per acre of oats; and of potatoes, one-half only, of which are supposed to be lost, the crop of last year being on an average of 821 lbs. per acre against a crop of 17,808 lbs., as in former years!

Facts in Pruning.—The general principles of pruning, as distinguished from hardwork, are few in number, and among the easiest of all things to understand; but their application is manifold, often difficult, and always special. For example, it is an axiom that hard pruning produces barrenness, and that slight pruning leads to productiveness; a second well known law is that the removal of one bud or branch strengthens another; a third law teaches us, that to stop a branch by cutting away its extremity, compels what is left to produce side branches, which might not have otherwise appeared. Then again, the necessity for using the pruning-knife at all is often obviated by the employment of the finger and thumb; that is to say, a young branch may be prevented from appearing by pinching off its bud as soon as it begins to push, as well as by first allowing it to grow, and then removing it—and better. All these, and all such, facts are plain to the meanest capacity; the difficulty is how to apply them, and when, and where. The answer to such questions is only to be found in experience, and in a very careful examination of the peculiar mode of growth of each species of tree to be operated on. For no two species of tree can be found of which it is the nature to grow, flower, and fruit, exactly in the same way, and

every variation in the manner of growing, flowering, and fruiting, demands a corresponding variation in the mode of applying the principles of pruning.—*Gardeners' Chronicle*.

Importance of Deep Tillage.—However skilfully and philosophically we may carry on our saving and application of manures; however well we may select our seed, and choose our seed-time, without deep tillage we can by no means receive the maximum result. Drained land deeply stirred, and thoroughly pulverized, becomes a kind of regulator of the weather for itself; it is not soon soaked in wet, and it forms a storehouse of moisture in dry weather. It is a bad conductor of heat, and is therefore not easily over heated; but on the other hand it is not soon cooled, and so keeps up an equal temperature by night and by day, in cloud and in sunshine—in the highest degree favorable to the healthy development of plants.—*Farmer's Herald*.

Pulverization of the Soil.—The grand object of pulverization of the soil is to give free scope to the roots of plants for without an abundance of roots no plant will become vigorous, however rich the soil may be in which it is planted. Pulverization, therefore, is not only advantageous previous to planting, or sowing, but also during the progress of vegetation of most plants. At this stage the operator, by means of pruning, or cutting off the extended fibres, causes them to send out numerous others, by which such food as is in the soil is the more readily taken up. Pulverization increases the capillary attraction, or sponge-like property of soils, by which their humidity is rendered more uniform. This capillary attraction is always greatest where the particles of the soil are finely divided. Gravels or sands retain little or no water, while stiff soils, as clays, which have not been opened by pulverization, either do not absorb water, when by long action it is absorbed, or they retain too much. Water is not only necessary to the growth of plants, but it is essential to the production of extract from the vegetable matter which they contain, and unless the soil by pulverization is so constituted as to retain the requisite quantity of water to produce this extract, the application of manures would be useless. Water is known to be a condenser and solvent of carbonic acid gas, which is immediately carried by it to the roots of vegetables. The depth of pulverization must depend upon the soil and subsoil. In rich lands it can scarcely be too deep, and even in sands, unless the subsoil contains particles noxious to vegetables; but very dry sands, if the season is hot and dry, should merely be stirred, otherwise the great evaporation of moisture which would take place by deep pulverization, would render them too dry for vigorous growth of plants. By deep pulverization the temperature of the earth is increased. As earths are bad conductors of heat, it would be a considerable time before the gradual increasing temperature of spring could communicate its genial warmth to the roots of vegetables. It is thus of the utmost importance to have the land open, so that the warm air and tepid rains of spring may have free ingress. Some soils are more readily heated than others, and some soils cool much sooner than others. In general, soils that consist principally of a stiff, white clay are difficult to heat, and being usually very moist, they retain the heat only for a short time. Chalks are similar in one respect, they are difficult to heat, but being dry they retain the heat longer. A black soil is readily heated; colored soils, and those soils containing much carbonaceous matter, exposed under equal circumstances, acquire a much higher temperature than pale-colored soils. When soils are perfectly dry, those which most readily become heated by the solar rays, likewise cool much more rapidly. Abundance of animal and vegetable matter, when heated to the same degree, will cool much more slowly than a wet, pale soil entirely composed of earthy matter.—*A Contemporary*.

Editor's Table.

CATALOGUE OF AGRICULTURAL IMPLEMENTS, &c.— We have had many requests for our catalogue for the past four months, with which we have been unable to comply in consequence of the edition having become exhausted. We shall print a second edition in August, and shall then be happy to furnish all applicants gratis. Our friends will please to send in their requests any time after the 1st September for such as may be wanted.

THE AMERICAN VETERINARIAN; or Diseases of Domestic Animals, showing the causes, symptoms, and remedies, and rules for restoring and preserving health by Good Management; with Directions for Training and Breeding. By S. W. Coles, editor of the Agricultural department of the Boston Cultivator, assisted by Sanford Howard, Esq., of the Albany Cultivator, and Dr. Holmes of the Maine Farmer. Boston: John P. Jewett & Co. pp. 288. 18mo. For sale by C. M. Saxon, 205 Broadway, N. Y. Price 50 cents. The farmer and stock-breeder will find much valuable information in this little work, which it concerns them much to know; by reference to its directions they may be enabled to save many a valuable animal which otherwise might be lost. We recommend all those who keep domestic animals to procure Mr. Coles' book.

DE BOW'S COMMERCIAL REVIEW—NEW ORLEANS, MAY, 1847. Monthly, of 100 pages. Terms \$5 a year. This work has now been published regularly for eighteen months, and embodies an extensive amount of information in relation to all the practical interests of our country, and more particularly of the South and West. Its circulation has been continually augmenting, and its character established all over the Union. Among the contributors may be mentioned the names of Hon. Joel Poinset, R. Greenhow, Department of State, Hon. B. F. Porter, J. P. Benjamin, and E. J. Forstall, of New Orleans; Col. J. Gadsden, Hon. W. J. Grayson, and R. F. W. Alston, Charleston; Hon. Geo. Eustis, Hon. T. McCaleb, Hon. Maunsell White, New Orleans; R. Abbey, Mississippi; Dr. J. C. Nott, Alabama, etc. etc. The Chambers of Commerce of Charleston and New Orleans have both passed series of resolutions unanimously approving and commending the work. A large number of the first merchants of the former city have published a card to the public to the same effect. We think that we may with safety commend the Review to the patronage of the whole American public. The Editor, J. D. B. De Bow, may be addressed at New Orleans. The work is well got up and embellished with numerous wood cuts of cities and other matter connected with commerce, the mechanic arts, and agriculture.

IMPORTED STOCK.—By the ship Constitution which arrived here from Liverpool, on the 12th May, George Vail, Esq., of Troy, received a superb three-year-old Short-Horn heifer, called Arabella, from the celebrated stock of Thomas Bates, of Yorkshire, England. She was got by the 4th Duke of Northumberland, her dam by Duke of Cleveland, her grand dam by Belvedere, &c. Her color is red, save a few white spots. Being descended from good milking stock, she will prove a great acquisition to the herd of her enterprising owners, and of much service in improving the stock of the country.

PICTORIAL HISTORY OF ENGLAND.—This excellent work has reached the twenty-second number, and its character and execution are fully sustained.

OFFICERS OF THE AMERICAN INSTITUTE.—The Annual Meeting of the American Institute, of New York, was held on the 13th ult., and the following officers chosen:—Mahlon Dickerson, President; Shepherd Knapp, James J. Mapes, John Campbell, Vice Presi-

dents; Henry Meigs, Recording Secretary; T. B. Wakeman, Corresponding Secretary; Edward T. Backhouse, Treasurer; T. B. Wakeman, Superintending Agent.

THE CHRISTIAN PARLOR MAGAZINE, Edited by J. T. Headley, and published Monthly, by E. E. Miles, 151 Nassau street, N. Y., at \$2 a year. This work is prettily got up, with numerous handsome engravings, and is a very proper one for the parlor table. Its editor is well known as one of the most brilliant writers of the day, and we have no doubt he will be the means of making this periodical eminently popular throughout the country.

THE PIG, BY WILLIAM YOUTT, with the History, Rearing, Feeding, and Diseases of Swine. This work has recently been published in London, and is the last with which we shall be favored by the lamented author, he having died previous to its passing through the press. It is an octavo, and beautifully got up. We do not think it is edited with the ability and completeness of Mr. Youatt's Treatise on the Horse, Cattle, or Sheep. Nevertheless, it is quite a respectable publication, especially in that part which relates to the diseases of swine, and one that has long been wanted. In one thing the author has been rather unfair upon us, he having repeatedly quoted from our writings and otherwise made use of our ideas, without giving us the slightest credit whatever. However, we shall not complain, as our writings on this and other subjects have been general plunder with the agricultural press for the past ten years.

We have for some time been engaged in collecting the materials for writing a work on Swine, to be published by the Messrs. Harper, and shall soon bring it out. We trust, when it appears, it will be found worthy the confidence of the public, and such a one as will meet the wants of the American farmer. Messrs. Lea & Blanchard will immediately republish Youatt, but that will not interfere in the slightest degree with our contemplated work.

FLORAL AND HORTICULTURAL EXHIBITION OF THE AMERICAN AGRICULTURAL ASSOCIATION.—The first exhibition of fruits, flowers, and vegetables, of this institution was held at their rooms, in the Lyceum Building, in Broadway, New York, on the 19th and 20th of last month; although not very numerous, the specimens were of the choicest kind, and in the most healthy condition.

Shrubs.—Among the ornamental shrubs we noticed a beautiful Araucaria excelsa from Messrs. Dunlap and Thompson, also Spiraea reevesiana and flowers of Paulownia imperialis from Messrs. Thomas Hogg and Son, the latter of which attracted general attention, as they were the first ever produced in this country. A sample of Datura arborea from Mrs. Wm. B. Astor, which had been highly invigorated by applying to its roots a solution of sulphate of iron (three drachms of the iron to one quart of water).

Flowers.—A splendid seedling Camellia, several specimens of Calceolaria, and Pelargoniums from Noel J. Bécar, of Brooklyn; Pelargoniums from James Pennington. W. Russell, of Brooklyn, fine seedling Pelargoniums. Mr. Boll, a variety of seedling Azalias.

Garden Vegetables and Fruit.—Asparagus from J. C. Beekman, T. Burrowes, Abraham Van Sicklen; Rhubarb from Van Sicklen, J. Briell, S. P. Jones; Lettuces, cucumbers, and cauliflower from J. C. Beekman; New potatoes from the Miss Rutherford's of Newark, and J. C. Beekman; Strawberries and green peas from A. P. Halsey; Mushrooms from R. K. Delafield.

The next monthly exhibition will be held on the 3d Wednesday of June, the 16th. On account of the greater number of fruits and flowers at that season, it will be found highly worthy of a visit.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MAY 19, 1847.

ASHES, Pots,	per 100 lbs.	\$5 00	to	\$5 12
Pearls,	do.	6 44	"	6 50
BALE ROPE,	lb.	5	"	6
BARK, Quercitron,	ton,	37 00	"	40 00
BEANS, White,	bush.	1 25	"	1 75
BEESWAX, Am. Yellow,	lb.	26	"	30
BOLT ROPE,	do.	11	"	12
BONES, ground,	bush.	40	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	16	"	28
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	10	"	12
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	11	"	12
COTTON,	do.	10	"	14
COTTON BAGGING, Amer. hemp,	yard,	11	"	14
FEATHERS,	lb.	25	"	34
FLAX, American,	do.	7½	"	8½
FLOUR, Northern and Western,	bbl.	8 00	"	8 37
Fancy,	do.	8 50	"	9 00
Southern,	do.	8 00	"	8 25
Richmond City Mills,	do.	9 00	"	9 50
Buckwheat,	do.	4 50	"	5 00
Rye,	do.	5 75	"	5 88
GRAIN—Wheat, Western,	bush.	1 75	"	1 87
Southern,	do.	1 70	"	1 75
Rye,	do.	1 12	"	1 13
Corn, Northern,	do.	1 00	"	1 03
Southern,	do.	98	"	1 00
Barley,	do.	70	"	75
Oats, Northern,	do.	50	"	55
Southern,	do.	45	"	50
GUANO,	do.	2 50	"	3 00
HAY, in bales,	100 lbs.	60	"	65
HEMP, Russia, clean,	ton,	275 00	"	280 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	9	"	10
HOPS,	lb.	8	"	10
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 50	"	4 56
Sheet and bar,	lb.	4½	"	5½
MEAL, Corn,	bbl.	4 88	"	5 00
Corn,	hhds.	20 00	"	22 50
MOLASSES, New Orleans,	gal.	32	"	34
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	2 25	"	2 38
Pitch,	do.	88	"	1 06
Rosin,	do.	75	"	85
Turpentine,	do.	3 25	"	4 25
Spirits Turpentine, Southern,	gal.	38	"	43
OIL, Linseed, American,	do.	65	"	75
Castor,	do.	75	"	80
Lard,	do.	85	"	90
OIL CAKE,	100 lbs.	1 50	"	1 75
PEAS, Field,	bush.	1 25	"	1 75
PLASTER OF PARIS,	ton,	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	10 00	"	12 50
Prime,	do.	8 50	"	9 50
Smoked,	lb.	7	"	11
Rounds, in pickle,	do.	5	"	7
Pork, Mess,	bbl.	14 50	"	16 12
Prime,	do.	12 00	"	13 25
Lard,	lb.	9	"	10 ½
Bacon sides, Smoked,	do.	6	"	8
In pickle,	do.	5	"	7
Ham, Smoked,	do.	8	"	12
Pickled,	do.	6	"	10
Shoulders, Smoked,	do.	6	"	8
Pickled,	do.	5	"	7
RICE,	100 lbs.	4 25	"	5 00
SALT,	sack,	1 25	"	1 35
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	7	"	10
Timothy,	bush.	2 00	"	4 00
Flax, clean,	7 do.	10 25	"	11 25
rough,	do.	10 50	"	11 50
SODA, Ash, cont'd 80 per cent. soda,	lb.	3	"	3
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	6½	"	9
SUMAC, American,	ton,	35 00	"	37 50
TALLOW,	lb.	8	"	9
TOBACCO,	do.	2	"	7
WHISKEY, American,	gal.	30	"	31
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	30	"	35
Half blood,	do.	20	"	25
Common do.	do.	18	"	20

REMARKS.—By reference to our Price Current this month, it will be seen that, Quercitron Bark, Guano, all kinds of Grain and Flour, Hemp, Lead, Pork, and Rice, have risen, and the demand for these articles abroad is likely to continue and prices rule high throughout the season. Farmers have the best prospects ahead, and can continue to plant and sow as much as they can possibly well cultivate, with the assurance that their labors will be amply rewarded after harvest is over, with good prices for their products. Money continues reasonably abundant, with large importations of specie.

The Weather, though cold for the season, has upon the whole, been favorable for getting in spring crops. Vegetation is still quite backward, and the country is suffering somewhat for want of rain. We continue to hear complaints of the wheat-crop, but nothing particularly alarming. The peach-crop has been nearly destroyed south of us by frost, and in this vicinity it has not been injured. Other kinds of fruit promise abundantly.

Acknowledgments.—Abstract from the Returns of the Agricultural Societies in Massachusetts, for the year 1846.

To CORRESPONDENTS.—Communications have been received from Pax. J. J. S., B. F. Ward, An Old Lady, M. W. Philips Veritas, A Friend to Southern Agriculture, and G. H. T.

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